

Creating an Entrepreneurial Region: Exploring the Entrepreneurial Capacity of the East Midlands

A report prepared for *emda*

Andrew Atherton and Kirk Frith, Enterprise Research and Development Unit, Lincoln University

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by

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1. Introduction and Overview

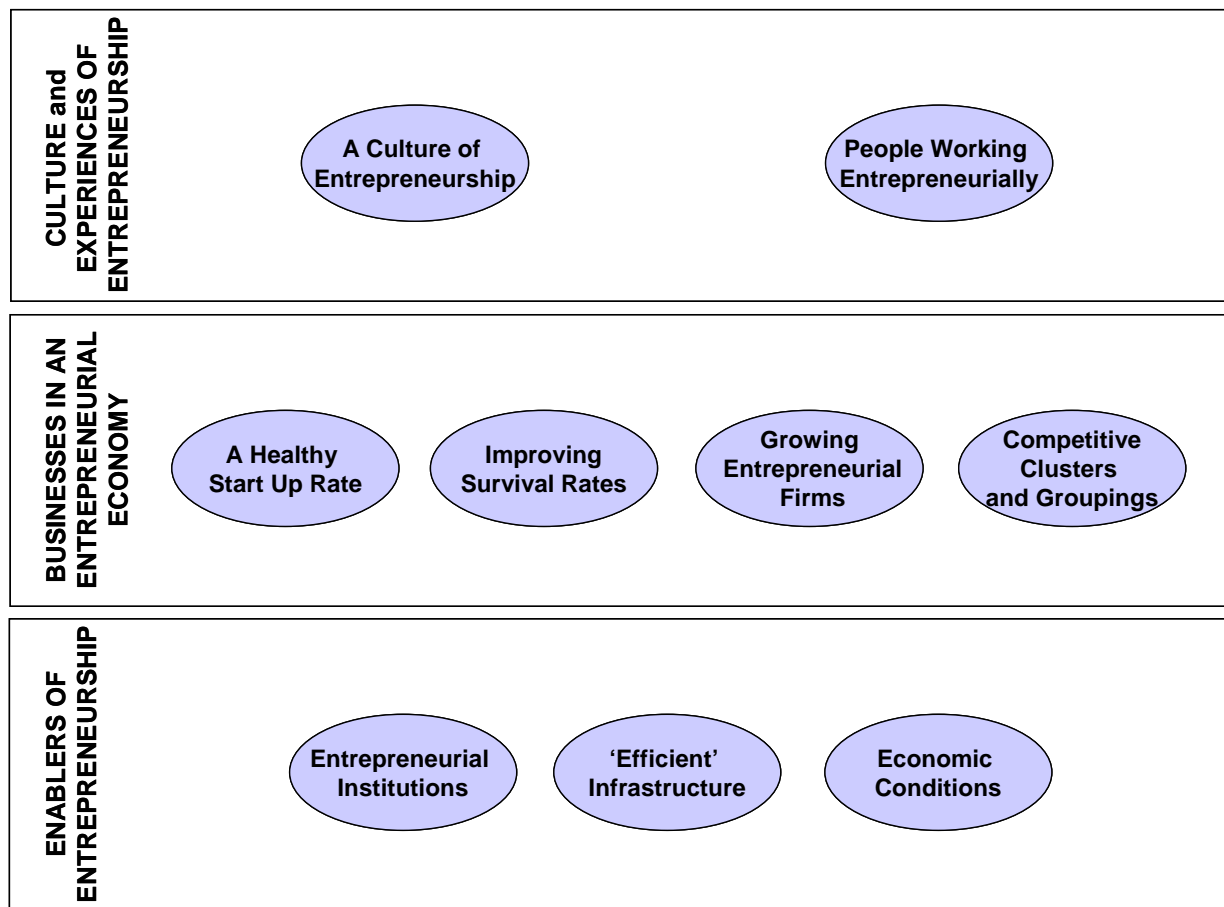
- 1.1 Entrepreneurial regions display characteristics that are consonant with economic prosperity and growth. They have high levels of business start-up, often of high quality ventures, and an adaptable and flexible indigenous population of firms that are innovative and trade extensively outside the region as well as creating new economic opportunity within it. These regions represent, as such, a desirable 'local economy' in which economic development and growth can be sustained.
- 1.2 This paper explores the notion of the entrepreneurial region, and in particular the relevance and appropriateness of this concept to the East Midlands. Via an assessment of existing data and studies, an outline framework is developed that depicts aspects and dimensions of an entrepreneurial region. This framework is then applied to the East Midlands to gauge how entrepreneurial the region is.

2. What is an Entrepreneurial Region: Characteristics and Dimensions

- 2.1 There has been extensive work undertaken that seeks to define entrepreneurship, and to describe and understand entrepreneurial activity and behaviour, in individuals and in economies. In this paper, previous a framework is developed for describing and hence analysing how entrepreneurial a region is, and so for examining entrepreneurship in the East Midlands. The framework has been developed out of the policy and wider non-academic as well as academic literature, and from studies and policy assignments undertaken by ERDU at the University of Lincoln. For reference, a review of this literature is attached to this paper as Appendix 1.
- 2.2 The framework is based on three propositions that provide a coherent and comprehensive consideration of entrepreneurship and entrepreneurial activity.
- 2.3 The three propositions are:
 - Proposition 1: Entrepreneurial regions have a culture that recognises, encourages and supports entrepreneurs and entrepreneurial ways of working (Culture and Experiences of Entrepreneurship).
 - Proposition 2: Entrepreneurial regions have a dynamic business population that is based on: (1) a healthy start up rate; (2) improving levels of survival amongst newly established firms; (3) a large and rising proportion of entrepreneurial firms that are growing; (4) agglomeration effects that speed up regional growth through clusters, clustering and the geographical concentrations of businesses (Components of an Entrepreneurial Economy).
 - Proposition 3: The institutions and infrastructure of a region explicitly support and enable entrepreneurial activity, and the wider regional and national macro-economic conditions enable it (Enablers of Entrepreneurship).

- 2.4 These propositions indicate that the notion of an entrepreneurial economy extends beyond business start-up and the small business population to incorporate wider values and the context within which regional entrepreneurship occurs.
- 2.5 At the heart of the framework are dynamics of business development and entrepreneurial emergence, in particular the initiation, survival and growth of businesses (individually and in groups). The entrepreneurial region is one where entrepreneurs start and grow businesses and are successful in these endeavours. Entrepreneurship occurs in a region because individuals make entrepreneurial decisions, and this places business initiation, emergence and growth at the heart of the entrepreneurial region.
- 2.6 In order to enable and encourage businesses to start, working experiences and broader socio-cultural acceptance and embracing of entrepreneurship are important in creating an ‘entrepreneurial culture.’ The extent to which entrepreneurs are seen as part of the region, and are recognised as contributors to the economy and community, reflect broader values towards entrepreneurship.
- 2.7 The nature and configuration of institutions that enable entrepreneurial activity – to start as well as to grow, indirectly as well as directly – will also influence levels of entrepreneurship in a region, as will the nature of the travel and communications infrastructure (‘hard’ and ‘soft’) and the economic conditions within the region as well as nationally and in key markets internationally. Differences in levels of entrepreneurship, between regions and nations, indicate that broader environmental factors, in particular enabling conditions and enterprise development institutions affect local variations and can push regions towards being more or less entrepreneurial.
- 2.8 The framework is based on the principle that all three propositions are required for a region to be entrepreneurial. Each proposition, and the components on which it is based, constitutes a necessary but in itself insufficient condition for the emergence of an entrepreneurial region. This, in turn, indicates that entrepreneurship within a region can develop ‘endogenously’, i.e. it can be reinforced and expanded when all three propositions are in place and functioning effectively. Regions are entrepreneurial, in other words, when all aspects of entrepreneurial activity and support are in place and are supporting each other.
- 2.9 For each of the three broad propositions, the framework identifies essential ‘components’ of an entrepreneurial economy that must exist or be in place for individuals and organisations to act entrepreneurially (Diagram 1). A review of the academic and policy literature has been undertaken to support this framework and to provide reference to previous analysis of and research into entrepreneurship within a regional dimension (see Appendix 1). Although by no means claiming to be definitive, the review provides detailed information on each part of the overall framework and so is a useful reference for this paper.
- 2.10 In Diagram 1 below, nine dimensions of an entrepreneurial region are summarised by their proposition, or theme.

Diagram 1: A Component Model of an Entrepreneurial Economy

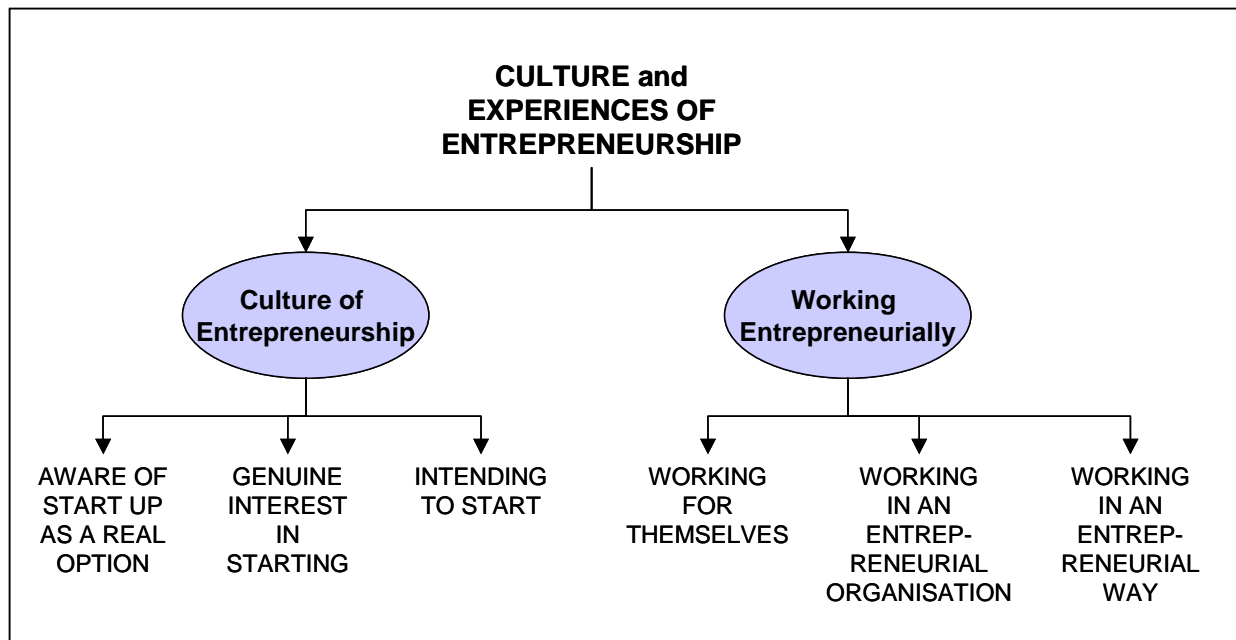


A Culture of Entrepreneurship

- 2.11 The extent to which a culture of entrepreneurship exists and the extent to which individuals experience enterprise and observe entrepreneurial activity in others around them is an indicator of entrepreneurial potential within the region. The extent to which values are supportive of individuals seeking to become entrepreneurs also provides a qualitative measure of the nature and level of cultural and social recognition of entrepreneurship within a region. A culture of entrepreneurship exists when people are exploring and seeking out opportunities to be entrepreneurs and to be entrepreneurial in how and where they work, and are socially supported and encouraged to do so. A culture of entrepreneurship is based, therefore, on shared, explicit support for and recognition of entrepreneurship as an option and opportunity for individuals.
- 2.12 There are three ways in which such a culture can emerge and be developed:
1. Individuals who have not started a business, and have no or little previous experience of this, are aware that this is an option for them in their working lives and careers. This is likely to involve careers and employment advisory services in suggesting start-up as an option, where it is viable and desirable, as well as helping and encouraging individuals to consider this as a viable option. It also relates to wider, ‘popular’ awareness of entrepreneurship as a personal opportunity rather than an abstract notion, for example through reporting and dissemination via the media.

2. There is a cohort of people who are genuinely interested in starting their own businesses, and as importantly, are encouraged and supported to explore this as a personal option. Interest in and intentions to start a business have been associated with higher levels of business start-up in countries such as the United States, and these countries tend to have higher numbers expressing interest in start-up as an option as well as intention to start.
3. People intending to start a business are supported and facilitated through the process, and do not face barriers to start up that can be removed or resolved. Entrepreneurial regions tend to have a comparatively high number of people expressing serious intent to start a business, and offer mechanisms, explicitly and implicitly, that support individuals to start a business.

Diagram 2: Cultures and Experiences of Entrepreneurship



2.13 Working entrepreneurially provides direct experiences of entrepreneurship and develops entrepreneurial capability. It takes the following forms:

1. Working for oneself, through self-employment or by starting a business that employs staff, provides a direct and ‘hands-on’ experience of entrepreneurship that develops the entrepreneurial attitudes and behaviours as well as skills and capabilities. As indicated earlier in this paper, the number of people ‘working for themselves’, either as sole traders or as owner-managers, is an important measure of levels of entrepreneurship in a region.
2. Not all entrepreneurial organisations are start-ups or small and micro enterprises (and vice versa – not all small enterprises are necessarily entrepreneurial). Larger companies, as well the public sector, charities and other ‘third sector’ organisation can operate and be managed in entrepreneurial ways. Regional data tend not to identify and monitor these other forms of organisation as entrepreneurial, and so do not fully capture entrepreneurial activity in a region.

3. How people work, and in particular their approaches to and behaviours at work, can affect levels of entrepreneurial activity. Developing the skills to work in an entrepreneurial way will create conditions where individuals stimulate entrepreneurship in organisations through their own actions. This suggests that enterprise education in schools, colleges, universities and other educational settings, as well as 'lifelong learning' and experiential learning through work and other activities, offers a means of developing entrepreneurial skills in people.

Businesses in an Entrepreneurial Region

- 2.14 At the heart of the entrepreneurial region are entrepreneurs and the firms and other organisations that they create, manage and build. Entrepreneurship, therefore, is based on and determined by the creation and presence of new organisations. Entrepreneurial regions as a result have:
- 1) Healthy start up rates;
 - 2) High levels of firm survival after starting;
 - 3) Entrepreneurial firms that are growing;
 - 4) Groupings and clusters of firms that achieve greater growth through collaboration and interaction (Diagram 3).
- 2.15 A healthy start up rate indicates that both the volume and the quality of new ventures being established are improving. Increases in the number of new businesses in a region enhance prospects for additional wealth creation and for the emergence of new forms of economic activity. Regional prosperity is closely associated with levels of new firm formation, as has been established in successive studies.¹ Improvements in the overall quality of start ups enhances prospects for survival and also leads to businesses being established that have greater potential to grow and to become competitive. Related to this is the diversity of starts. Businesses being established across many sectors and with different scales and forms of operation produce diversity and hence greater diversification and more scope for specialisation within a regional economy.

Although increased levels of business start-up are, in broad terms, desirable, there is some debate as to whether the number of start-ups is a sufficiently robust indicator of overall levels of entrepreneurship in a region. In most market-driven economies, but not all,² there tend to be high levels of 'churn' arising from high levels of business start and closure. From one perspective, this is a positive dynamic, in that increased numbers of new venture 'entry' and 'exit' signify greater levels of personal flexibility in both starting and closing new ventures. However, an alternative possibility is that high levels of firm closure occur because businesses are being established that are not viable or sustainable. In addition, displacement effects – where a start-up displaces an established firm and so does not add to economic activity – may occur, especially in sectors where barriers to entry are low and there is little product or service

¹ See Acs Z and Storey D (2004) 'Introduction: Entrepreneurship and economic development' *Regional Studies* 38(8), pp. 871-877. See also Johnson P and Conway C (1995) 'Entrepreneurship and new firm formation' in Evans L, Johnson P and Thomas B (ed.s) *The Northern Region Economy* Mansell Publishing: London.

² There are countries, such as Germany, that offer a different model of entrepreneurial initiation than the 'churn' seen in what have been termed the Anglo-Saxon market economies (in particular the UK and the US). In Germany, for example, overall rates of business start-up are low, but survival rates are relatively high, suggesting that in this nation the dynamic is one of selecting for quality, in terms of likelihood of survival, at start-up.

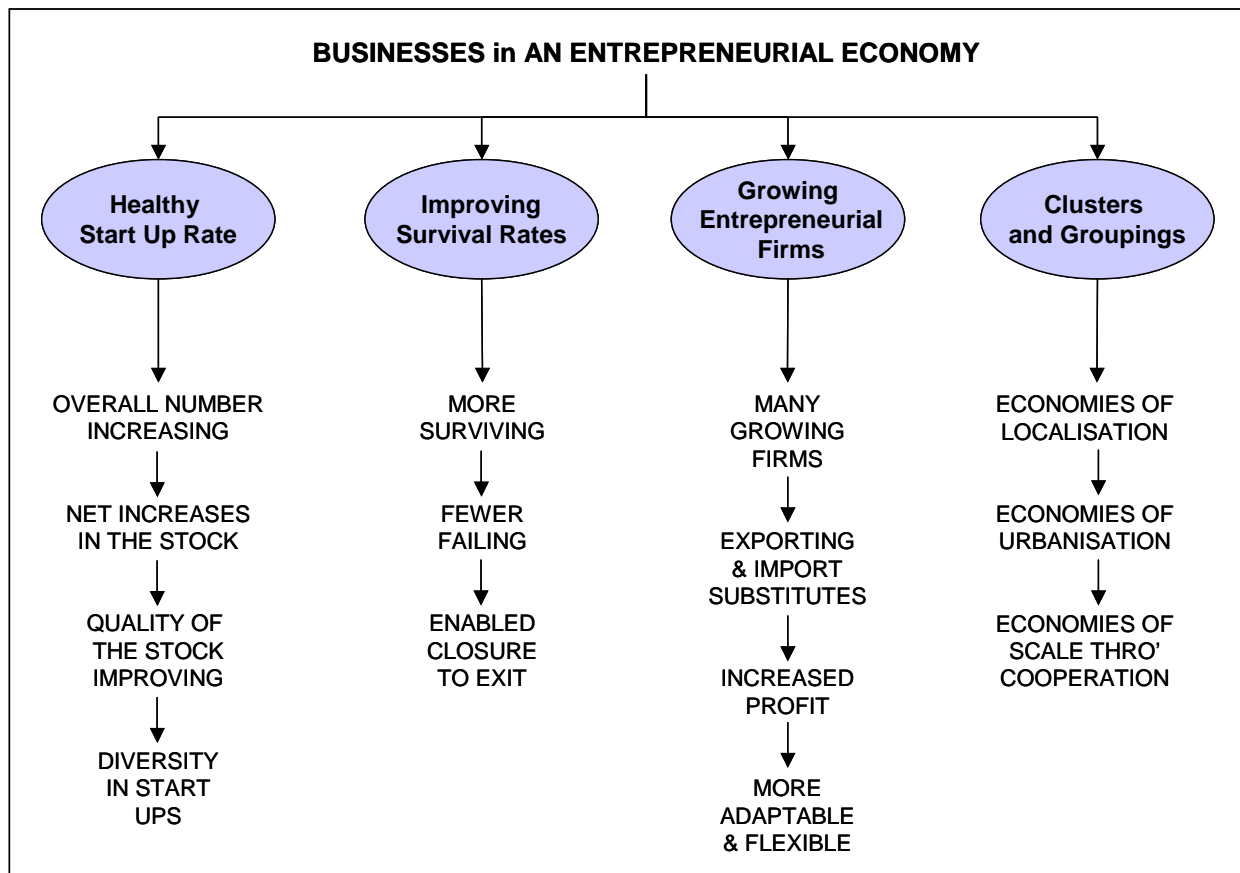
differentiation. Although 'churn' may create dynamism and flexibility in the economy, the net effects may be either neutral or negative. Within an entrepreneurial region, therefore, start-up rates are positive when the net impact of changes to the business stock through firm entry and exit is positive in real terms, and when the starts are of higher quality, as measured by the value that they add to economic activity and their prospects for survival.

- 2.16 Improving survival rates mean that more new businesses continue to operate and to develop, particularly during their early years when they tend to be most vulnerable. More surviving start ups means that fewer will fail, particularly if sufficient input and assistance is provided to enable the starter(s) to avoid and deal with the generally rectifiable problems and issues that almost all new businesses face. And, in order to lower the barriers to starting a business, as well as to minimise the negative effects, assisted or enabled closure can help unsuccessful starts to limit the negative effects of exit.

Although a proportion of firms are likely to fail because of the risk-driven nature of business operation, there are indications that many also fail because they lack resources, such as capital, and know-how and skills to navigate and overcome problems and events that could be resolved should the resources and know-how be available. Information asymmetries function as market failures that prevent firms, and especially small and new firms with few resources and an immature set of relationships, from identifying and hence acquiring information that could lead to the acquisition of resources and other inputs that could prevent closure. Information asymmetries have also been used to explain why some new firms are under-capitalised at launch and so lack cash flow to run the business. There is a broad case, therefore, for intervention at the survival stage following business start-up targeted at those firms that could survive with appropriate inputs.

- 2.17 Entrepreneurial regions tend to have firms that are growing, developing new markets and opening up new areas of economic opportunity. These firms tend to have a disproportionately high effect on local growth, especially employment and private sector turnover. They are also more likely to sell outside the region, thus generating 'exports', and to develop new activities in the region that previously were bought elsewhere (import substitution). In many instances, firms achieve this by deploying knowledge – often tacit or proprietary – to enhance the value of their production of goods or delivery of services. These firms tend to be adaptable and flexible, in their operation as well as in how they respond to opportunities, and can sustain growth over periods by maintaining their adaptability and flexibility.
- 2.18 Growing firms therefore tend to have one or more of the following features: (1) they sell products and services outside the region, i.e. they 'export' either to other regions or internationally; (2) they are profitable, and can generate increased profit through growth; (3) they are adaptable and flexible, making them more able to respond to opportunities and react to market change. Although not all growing firms demonstrate all these characteristics, the broad case can be made that the three features of firm growth provide a broad definition, or set of criteria, that can shape and inform regional development patterns and policies. If, for example, firm growth is measured in terms of revenue rather than profit increases, then the net, and hence actual, effects on the regional economy may not be apparent.

Diagram 3: Businesses in an Entrepreneurial Region



2.19 Some of the fastest growing regions in the world have well developed networks of firms and other institutions working together to gain additional advantage through collaboration. Although an unwieldy phrase, agglomeration effects is a powerful concept. Agglomeration occurs when firms locate close to each other in densely populated areas (by companies and by people alike) in order to gain benefits from the proximity of other enterprises and of labour and other inputs. These agglomeration effects provide enhanced opportunities for collaboration that can generate growth for a company that would be unachievable without such linkages. Three forms of agglomeration economy can be identified:

1. Economies of localisation, in which companies in the same or overlapping sectors locate near to each other to gain “intra-industry” benefits, i.e. those based on specialist sectoral knowledge and expertise. Localisation economies allow for and emerge from specialisation within firms in the same or related sectors, and so provide greater scope within a particular industry for individual companies to develop complementary niches and expertise that through collaboration and other clustering effects enhances local competitiveness.

Economies of localisation are particularly apparent in some of the most noticeable international clusters, such as Silicon Valley (electronics), Boston (biomedical) and the City of London (financial services). They are also a particular feature of rapidly growing emerging economies, such as China and India.

Economies of localisation can be associated with local growth models such as the Industrial Districts of Northern Italy, which have generated high levels of innovation and economic growth via ‘flexible specialisation’ between complementary firms. They are also associated with instances of industrial decline, in traditional industries such as textiles and metalworking, in the UK and in other mature economies. In these cases, wider economic and market dynamics will render the potential benefits from economies of localisation redundant.

2. Economies of urbanisation, in which cities create environments that encourage innovation through collaboration and exchange of ideas. Urbanisation economies occur because of cross-germination between sectors and industries and through economies of scale in inputs such as labour markets and skills development, which benefit firms in multiple sectors.

These economies are closely associated with the competitive advantage of cities, which through the concentrations of many different forms and types of firms and labour, as well as the presence of other inputs such as finance and services, secure locational advantage for resident firms. Cities that enjoy economies of urbanisation demonstrate diversity of economic activity and offer innovation and new market opportunities through this diversity.

3. Economies of scale through cooperation, where firms achieve goals and objectives beyond the scope of their own resources and capabilities by collaborating to ‘pool’ these resources and expertise. These economies, which are evident in both economies of localisation and urbanisation, can be seen as dynamics of ‘micro-clustering’, in that collaborative relationships often occur within very small groups of firms, rather than at a scale where agglomeration effects take hold through the emergence of clusters. Micro-clustering involves collaboration between groups of business in ways that enable greater flexibility in production and delivery as well as greater scope in seeking and generating orders. It can occur in very small groups, of three or four firms, working informally by ‘putting out’ work to each other for example.

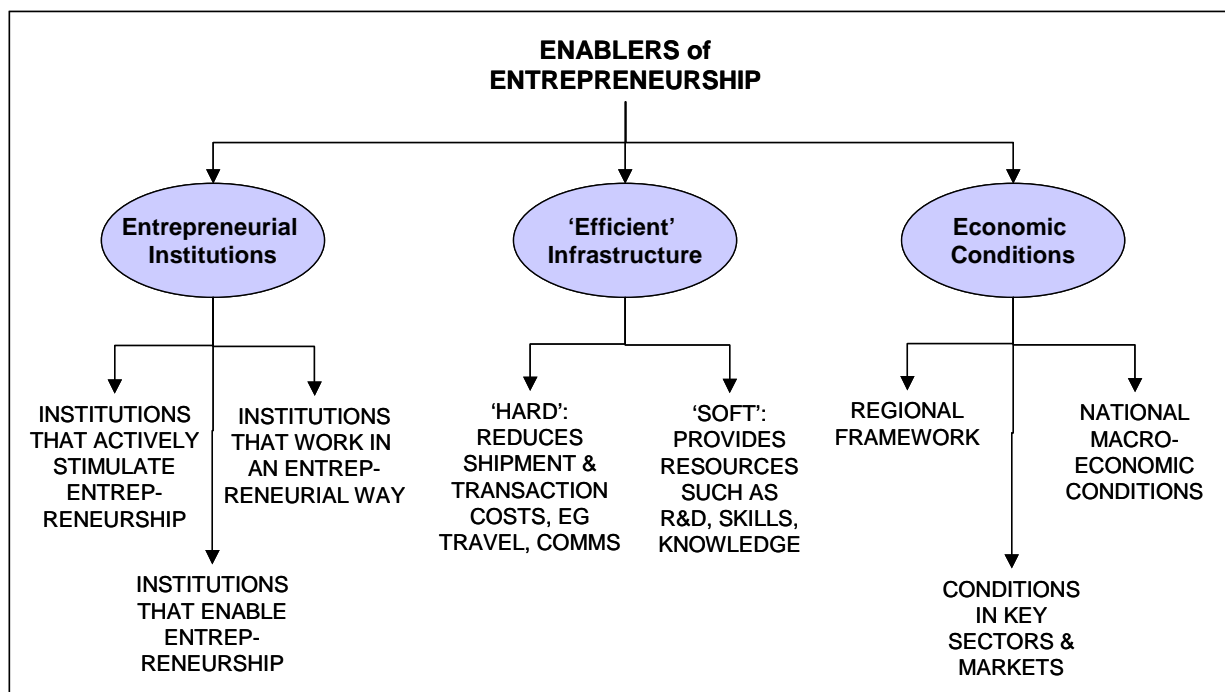
Enablers of Entrepreneurship

- 2.20 Three different forms of institutions and institutional behaviour can be associated with entrepreneurial activity in a region. The first are institutions that aim to stimulate entrepreneurial development, for example by encouraging business start-ups or growth. These institutions have explicit objectives related to the business and entrepreneurial development of a region. Success is measured by the extent to which they achieve their overall organisational goals (and rationale), as well as by the ways in which such ‘purposive’ support activities are funded.

In broad terms, these institutions contribute to the development of an entrepreneurial region by focusing on dimensions of the ‘Businesses in an Entrepreneurial Region’ component of the framework, and so contribute to: (1) healthy start up rates; (2) high levels of firm survival after starting; (3) entrepreneurial firms that are growing; (4) groupings and clusters of firms that achieve greater growth through collaboration and interaction (Diagram 11).

- 2.21 Institutions that do not directly support enterprise development, but that play important roles in the functioning of the regional economy, and related social and political processes and dynamics, will also affect entrepreneurial activity, albeit sometimes in indirect or unintended ways. Planning is an example of an institution that can either enable or prevent entrepreneurial activity in a region, as are local partnerships and representative institutions such as district and county councils.
- 2.22 For both types of institution, the ways in which they operate, and the empathy that they have towards entrepreneurs and entrepreneurial activities, will affect overall levels of entrepreneurship in a region. Central to the development of an entrepreneurial region, therefore, is the ethos that underpins actions and decisions in enabling and support institutions. In regions where these institutions are entrepreneurial themselves, and so have greater empathy with entrepreneurs and entrepreneurial people, conditions are conducive for the emergence and development of greater levels of entrepreneurship than in regions where such institutions do not empathise or substantively engage with entrepreneurs and entrepreneurial activities. The extent to which support and enabling institutions are favourable or not towards entrepreneurs will influence the extent to which the regional framework is or is not positively and directly enabling of entrepreneurship.

Diagram 4: Enablers of Entrepreneurship in Regions



- 2.23 The nature of a region's infrastructure can also influence levels of entrepreneurship, typically in two ways. Firstly, the transaction costs of 'doing business' can be affected by communications and travel (time as well as cost). In regions where infrastructure is inefficient, i.e. transaction costs are high, incentives to start a business will, all other things held constant, be lower than in regions where infrastructure minimises the costs of economic exchange. Secondly, particular configurations and forms of infrastructure can encourage and stimulate entrepreneurial activity, for example by concentrating public, academic and private R&D activities locationally.

- 2.24 The economic conditions within a region, as well as the national macro-economic environment, are also likely to affect overall levels of entrepreneurship. Within a country, regional disparities in terms of industrial structure as well as income and GDP levels may affect levels of entrepreneurial activity. In broad terms, a positive relationship can be found between GDP and start-up rates, suggesting that as the number of new businesses increase so does economic activity (although this does not imply any particular causality in this relationship). Regional policy and the broader framework within which economic activity occurs can also affect levels of entrepreneurship, for example through public expenditure decisions and fiscal as well as monetary policy decisions.
- 2.25 Where regions, or local economies within them, are particularly dependent upon or sensitive to key sectors, wider market dynamics can have an effect on local entrepreneurship. The ‘off shoring’ of clothing and textiles has produced industrial restructuring in cities such as Leicester and Nottingham that has led to new entrepreneurial opportunities as well as the closure of many businesses. The reverse scenario, of regional growth being driven by fast-growing and competitive sectors, will also influence economic conditions, and prospects for entrepreneurship in these sectors. In both cases, linkages with other markets can influence regional opportunities for growth and entrepreneurship.

3. Applying the Framework: How Entrepreneurial is the East Midlands?

- 3.1 The entrepreneurial regions framework provides a means of assessing the East Midlands against each of the identified dimensions and their component parts, in order to develop insight into the nature as well as extent of entrepreneurship and entrepreneurial activity in the region. In this section, each component within the framework is assessed using data, where available and directly relevant, and qualitative assessments where data are difficult to find.

A culture of entrepreneurship

- 3.2 *Attitudes towards entrepreneurship: indicators of an entrepreneurial culture.* The 2004 GEM regional survey of the East Midlands assessed attitudes towards entrepreneurship in the region, and so provides indicative information about awareness of and interest in starting a business and of entrepreneurship more broadly (Table 1 below).

When compared with the rest of the UK, a greater proportion of respondents believed that there are “good start-up opportunities” in the East Midlands. There was also more personal interaction with entrepreneurs, and hence direct exposure to entrepreneurship, in the region than in the UK overall. And individual respondents in the region indicated that they had the capability (“skills”) to start.

Combined, these three factors suggest that individuals are more likely to start their own businesses in the East Midlands than on average for the UK. However, respondents indicated that they were less likely to expect to start a business in the region than in the UK.

- 3.3 This suggests that the East Midlands has a larger proportion of people than average in the UK who have the potential – as defined by skills, opportunities and personal experiences – to start a business, but who do not. The survey points to a ‘conversion gap’ between having the potential to start and intending to start a business in the region.

Table 1: Attitudes to Entrepreneurship in the East Midlands and the UK

	East Midlands 2004 %	UK 2004 %
I expect to start a business in three years	7.6	9.5
I personally know an entrepreneur	30.2	27.7
There are good start-up opportunities	42.4	35.9
I have the skills to start a business	55.7	51.7
Fear of failure would prevent me	31.3	32.9
Setting up a business is a good career choice	52.1	54.1
Entrepreneurs have a high status	72.9	71.7
There is good media coverage of entrepreneurship	54.8	55.7

Source: GEM UK Regional Summary East Midlands 2004.

- 3.4 The responses to the survey are attitudinal, and so indicate personal perceptions of and affinity towards entrepreneurship rather than actual levels of start-up in the region. The VAT data presented later in this paper suggest that, contrary to responses to the GEM survey, the East Midlands has a healthy medium-term trend in rates of business start-up. There is an apparent ‘gap’ between perceptions and actual levels of entrepreneurship in the region.

This suggests that the wider culture, as embodied in values and perceptions held by individuals, does not recognise actual start-up trends. This in turn implies that a culture of enterprise is less developed in the East Midlands than would be expected from levels of new venture creation.

Working entrepreneurially

- 3.5 *Self-employment, working entrepreneurially and running an entrepreneurial venture.* The GEM East Midlands survey also explored the ways in which individuals work entrepreneurially. In Table 2 below, four aspects of entrepreneurial work are identified: (1) start-up of an independent business; (2) new venture creation in employment; (3) owner-management of an independent business; (4) business closure and exist.
- 3.6 The East Midlands has seen an increase in engagement in start-up, both independently and under employment, as well as a noticeable drop in business closures. The proportion of respondents reporting engagement in start-up is relatively high, with only London and the South East reporting markedly higher levels. The region also has amongst the higher proportions of respondents reporting engagement in start-up as a part of their employment.
- 3.7 Although not the most entrepreneurial region in the UK, the East Midlands has higher start-up and owner-management response rates than regions such as the East of England, the North East, the West Midlands and Yorkshire and the Humber.

Table 2: Components of GEM Total Entrepreneurial Activity Index 2004

	I am independently engaged in start up activity		I am engaged in start up activity as part of my job		I am the owner manager of a business		I have closed down a business in the last 6 months	
	'03	'04	'03	'04	'03	'04	'03	'04
East Midlands	3.4	4.3	2.1	2.4	12.5	12.2	3.5	1.8
East of England	5.2	2.8	2.1	1.4	13.4	13.7	2.6	2.0
London	8.3	6.2	2.4	1.9	4.1	11.0	2.1	2.1
North East	3.3	2.4	2.0	1.8	9.4	7.5	0.5	0.8
North West	4.3	3.1	1.6	1.9	10.0	10.0	2.1	1.1
Northern Ireland	4.6	4.4	2.0	2.2	11.7	9.1	1.3	2.2
Scotland	4.1	4.0	1.9	2.0	10.6	10.2	1.3	1.6
South East	5.4	5.4	2.4	2.1	15.3	11.3	2.4	2.3
South West	5.0	4.5	2.6	2.5	14.7	13.2	2.4	2.3
Wales	5.1	4.4	2.5	1.8	13.1	8.6	2.5	1.5
West Midlands	4.7	3.0	2.8	2.1	13.4	11.2	1.7	2.4
Yorkshire & Humber	3.7	3.5	2.2	1.2	10.3	8.5	1.8	1.7

Source: Global Entrepreneurship Monitor United Kingdom 2004.

3.8 Rates of self-employment provide an indicator of the number of people 'working for themselves.' Total numbers of self-employed people had risen from around 230,000 in 1995 and 1996 to 237,000 by the fourth quarter of 2004. Numbers of self-employed people then rose steeply in the beginning of 2005 to 242,000 for the first quarter and to 249,000 in the second quarter. Should this trend continue, it signifies a major increase in the total numbers of self-employed in the East Midlands, from a mean (and median) around 230,000 from 1995 to 2004 to almost 250,000 in 2005. A large proportion of that increase appears to come from Nottinghamshire, and to some extent from rises in Leicestershire and Northamptonshire as well.

Over the total period, Nottinghamshire, Leicestershire and to a lesser extent Derbyshire reported significant increases in self-employment. Self-employment decreased noticeably in Lincolnshire and Rutland., although trends in recent years (2003-2005) suggest an increase back to levels close to those in 1995.

3.9 What is evident from Table 3 is the volatility of self-employment, where large changes in the numbers of self-employed can be seen between periods (see also Diagram 5). For example, total numbers self-employed fell by 10,000 between quarter 4 1996 and quarter 4 1997, and by 14,000 between the fourth quarters of 1999 and 2000.

3.10 In 1995, Lincolnshire and Rutland demonstrated self-employment figures close to 16% of the total workforce, a level noticeably higher than other parts of the region. Conversely, Derbyshire had self-employment rates below 10% in 1995. By 2005, these rates had converged to a band between 11% and around 13% of the total workforce. As indicated above, these trends hide large fluctuations in the proportion of self-employed

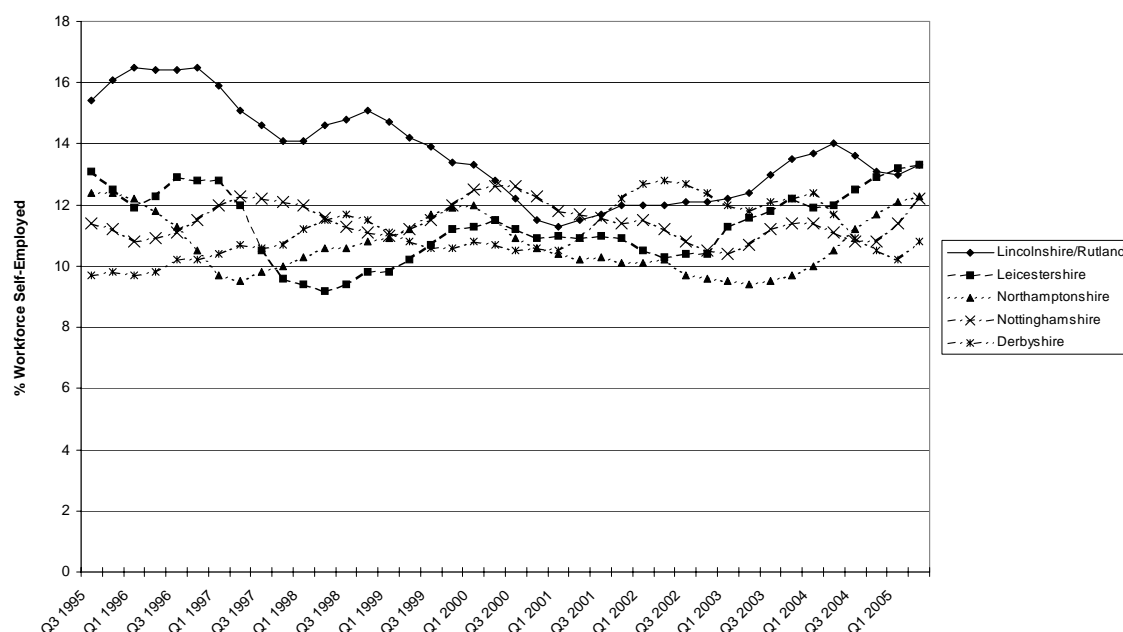
people in the workforce from quarter to quarter. Self-employment, in other words, is not a stable source of income for individuals, suggesting a proportion of this population is shifting into and out of self-employment over the period.

Table 3: Numbers of Self-Employed across the East Midlands

Date	Notts.	Derbys.	Lincs & Rutland	Leics.	Northants.	Total
Q4 1995	49,000	41,000	48,000	37,000	55,000	230,000
Q2 1996	48,000	42,000	49,000	36,000	52,000	227,000
Q4 1996	51,000	44,000	49,000	39,000	46,000	229,000
Q2 1997	55,000	48,000	45,000	36,000	42,000	226,000
Q4 1997	55,000	48,000	43,000	29,000	44,000	219,000
Q2 1998	52,000	50,000	44,000	28,000	48,000	222,000
Q4 1998	49,000	50,000	46,000	31,000	50,000	226,000
Q2 1999	49,000	47,000	44,000	32,000	53,000	225,000
Q4 1999	52,000	47,000	43,000	35,000	55,000	232,000
Q2 2000	55,000	47,000	41,000	36,000	53,000	232,000
Q4 2000	52,000	46,000	37,000	35,000	50,000	220,000
Q2 2001	50,000	47,000	37,000	36,000	48,000	218,000
Q4 2001	52,000	52,000	38,000	36,000	46,000	224,000
Q2 2002	52,000	55,000	39,000	34,000	47,000	227,000
Q4 2002	49,000	53,000	39,000	34,000	45,000	220,000
Q2 2003	50,000	51,000	41,000	37,000	44,000	223,000
Q4 2003	53,000	53,000	45,000	40,000	44,000	235,000
Q2 2004	51,000	51,000	48,000	40,000	48,000	238,000
Q4 2004	50,000	46,000	45,000	42,000	54,000	237,000
Q2 2005	57,000	46,000	45,000	44,000	57,000	249,000

Source: Labour Force Survey (NOMIS)

Diagram 5: Self-Employed Proportions of the Working Population



- 3.11 The number of smaller enterprises within a regional population can be seen as a broad indicator of overall levels of entrepreneurship, and also as a means of identifying the number of firms likely to be managed by entrepreneurs (whether as owner-managers or as employees). Policy studies have identified lower proportions of owner-managers of SMEs to the resident population as a key indicator of an ‘entrepreneurial deficit’ in Europe when compared with the US (EC, 2003).³

Table 4: Number of SMEs per 10,000 Residents 1999-2003

	2003	2001	1999	% change
London	1,082	1,144	825	31.2%
South East	1,056	962	1,176	-10.2%
East of England	991	885	686	44.5%
South West	941	867	952	-1.1%
UK	845	785	783	8.0%
Mean	834	777	752	2.7%
East Midlands	777	701	648	20.0%
West Midlands	748	685	708	5.7%
North West	714	638	654	9.2%
Yorkshire & Humber	698	635	654	6.8%
North East	483	469	441	9.5%

Source: Mid-year population estimates (NOMIS).

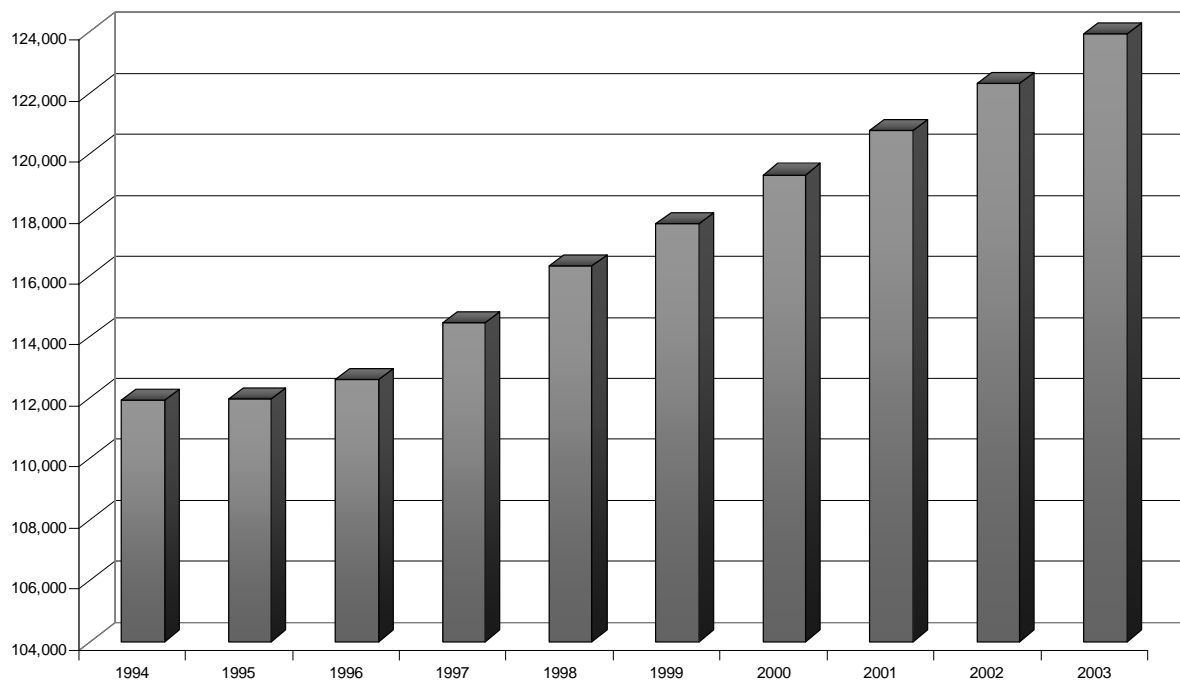
- 3.12 In 2003, the number of small and medium enterprises per 10,000 residents was slightly below the mean for the English regions and the UK as a whole. Densities of firms per population unit are highest in the most dynamic regional economies in the UK, namely London, the South East and the East of England, where they are between 27% and 40% higher than in the East Midlands.
- 3.13 In terms of trend data, however, the East Midlands has one of the fastest growing rates of increase in the number of SMEs per 10,000 population, at 20% between 1999 and 2003. Only the East of England, at 44.5%, and London, at 31.2%, exceed the region’s rate of growth in smaller firm density within the resident population. Starting from a low base, below the English and UK means, the East Midlands appears to be growing rapidly in terms of small and medium enterprise numbers within its resident population. Should this trend hold, it suggests a shift to an economy with more smaller firms and hence more examples of entrepreneurial activity and organisations.

Healthy start-up rate

- 3.14 Increases in the number of small and medium enterprises in the population suggest that the start-up rate, and net increases in the business stock, should be increasing in the East Midlands. The trend for the ten years from 1994 to 2003 indicates that there has been an increase in the business stock of around 12,000 businesses. From just under 112,000 businesses in 1993, the regional stock rose to almost 124,000 in 2003.

³ European Commission (2003) *Green Paper on Entrepreneurship*.

Diagram 5: East Midlands Business Stock 1994-2003



Source: VAT Registrations and De-registrations (NOMIS).

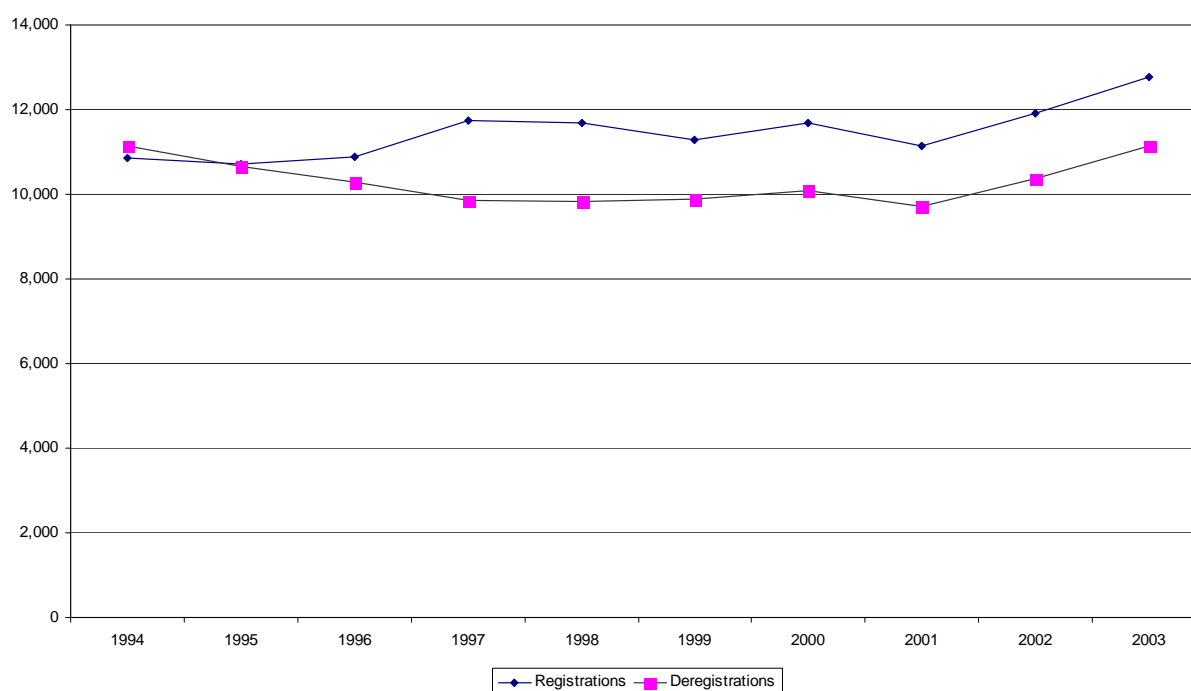
- 3.15 Trends in new venture creation, and in particular in net rates of business start-up can be assessed using VAT data. Although rates of registration and de-registration for VAT are only approximate indicators of net start-up rates,⁴ in that they do not reflect actual levels of new firm formation but do signify new firms reaching a threshold for annual turnover, they are an indicator of likely start-up trends over time.⁵ The net start rate for a region can be calculated through the difference between number of businesses registering for VAT in any one year and the number de-registering over the same period (see Diagram 6 below).
- 3.16 Over the period 1994 to 2003, net start-up rates as measured by VAT data indicate an overall increase in the number of new ventures starting up and surviving. For eight year from 1996, there has been an annual surplus of VAT registrations over de-registrations. For the five years from 1999 to 2003, the net increase of the business stock, as measured by VAT registrations less de-registrations, has been broadly constant at around 1,700 to 1,800 per year.
- 3.17 Combined with the increase in the number of SMEs per 10,000 residents from 1999 to 2003, the trends indicate a rising population of start-ups and new ventures leading to a larger overall stock of smaller ventures. Increases in the net start rate suggest that the regional economy is becoming more entrepreneurial, because individuals are

⁴ Atherton A (2005) 'Should government be stimulating start-ups? An assessment of the scope for public intervention in new venture formation' *Environment and Planning C*, forthcoming. Gibb A (2000) 'SME policy, academic research and the growth of ignorance, mythical concepts, myths, assumptions, rituals and confusions' *International Small Business Journal* 18(3), pp. 13-35. Johnson P and Conway C (1997) 'How good are the U.K. VAT registration data at measuring firm births?' *Small Business Economics* 9, pp. 403-409..

⁵ Fotopoulos G and Spence N (2001) 'Regional variations of firm births, deaths and growth patterns in the UK, 1980-1991' *Growth and Change* 32, pp. 151-173.

establishing new ventures that add to economic activity and play a Schumpeterian role of re-juvenating economic innovation and generating additional competition.

Diagram 6: East Midlands VAT Registration and De-Registration Rates 1994-2003



Source: VAT Registrations and De-registrations (NOMIS)

Improving survival rates

- 3.18 Rates of business survival in their early years in the East Midlands, as measured by VAT data, are above those for the UK: “In the East Midlands 67.7% of businesses that had registered for VAT in 1999 were still in business three years later, which is slightly above the UK average of 66.5%.”⁶ Survival rates after one year are broadly in line with the UK total for firms registering in 2001, the most recent year for which data are available. They are slightly higher for firms registering in 1999 (90.1% against the UK level of 89.6%).
- 3.19 Survival rates have improved for the East Midlands, and the UK as a whole. Regional rates of survival after one year rose from 90.1% to 92.1% over the three-year period. Initial prospects for new ventures in the region are high, therefore, and appear to be improving: the data suggest that a small and decreasing proportion of new firms are de-registering within their first year of registration.
- 3.20 Survival rates in Lincolnshire and Rutland and Northamptonshire are above the regional average. Derbyshire and Nottinghamshire are below the regional average, and the UK total. Nottinghamshire has a survival rate lower than any of the UK regions, even

⁶ East Midlands Development Agency (2005) *RES Interim Evidence Base: The East Midlands 2005*, Section 3: Economy and Productivity, p. 23.

though Nottingham has the largest and amongst the most dense firm population in the region.⁷

- 3.21 The East Midlands has a survival rate, as measured by VAT data, that is comparable to the UK as a whole. Within the region, there are some counties that have rates that are markedly above the regional and national rates, but there appears to be a greater element of ‘churn’ in the region’s largest urban economy, Nottingham, that brings the overall average down.

Table 5: Survival Rates for VAT Registered Firms 1999-2001

Percent still trading:	Registering in 1999			Registering in 2000		Registering in 2001
	1 year	2 years	3 years	1 year	2 years	1 year
United Kingdom	89.6	77.1	66.5	90.5	78.9	92.2
England	89.7	77.1	66.4	90.5	78.8	92.1
Wales	89.0	77.5	68.0	90.0	77.7	92.0
Scotland	88.1	75.7	65.3	90.2	79.1	92.5
Northern Ireland	89.6	80.5	72.4	92.1	82.9	94.0
North East	89.8	76.3	65.5	90.1	77.3	91.4
North West	88.4	75.5	64.9	90.0	78.1	91.5
Yorkshire and the Humber	89.7	77.0	66.1	90.2	77.4	91.5
East Midlands	90.1	77.9	67.7	89.9	78.7	92.1
Derbyshire	89.7	77.2	67.6	87.8	76.5	91.6
Leicestershire	89.0	76.1	65.0	91.6	80.7	92.3
Lincolnshire (inc. Rutland)	90.4	79.8	71.0	90.4	80.0	93.1
Northamptonshire	91.0	79.2	69.2	90.9	79.3	92.9
Nottinghamshire	90.5	77.8	67.0	88.9	77.3	91.0
West Midlands	89.5	76.9	66.5	90.8	79.4	92.1
East	91.4	78.8	68.1	91.0	79.3	92.4
London	88.0	74.5	62.8	89.6	77.0	91.2
South East	91.3	79.7	69.7	91.6	81.1	93.4
South West	90.5	78.3	68.0	90.8	80.2	93.0
Wales	89.0	77.5	68.0	90.0	77.7	92.0
Scotland	88.1	75.7	65.3	90.2	79.1	92.5

Source: Regional Trends (38)

Growing entrepreneurial firms

- 3.22 There are indications from research in the United States and Europe that small firms play a key role in supporting and stimulating innovation in regions.⁸ Smaller businesses are likely to be more adaptable and flexible than larger companies, and have been characterised in key policy studies as providing flexibility and responsiveness in

⁷ Atherton A and Johnston A (2005) ‘Mapping the structure of regional economies: A framework for assessing regional distributions of economic activity’ Lincoln Business School, University of Lincoln.

⁸ Audretsch D (2003) ‘The Green Paper on Entrepreneurship: The Evidence Base’. Audretsch D and Thurik R (2001) *Linking Entrepreneurship to Growth* OECD.

economies.⁹ This suggests that smaller enterprises are innovative because their size makes them more able to adapt rapidly. It also indicates that smaller enterprises contribute to wider exploitation of intellectual property, to some extent via interactions with and contracts for larger companies.¹⁰

- 3.23 Although the East Midlands has a relatively small share of the total UK SME population, a comparatively high proportion of the region's private sector turnover is generated by smaller businesses (Table 6). Growth amongst smaller firms is therefore likely to have a disproportionate effect on regional GDP.

Table 6: SME Proportions of Private Sector Turnover 1999-2003

	2003	2001	1999	% change
North West	59.7	55.7	57.4	4.0%
South West	59.6	55.5	58.0	2.8%
East Midlands	54.7	54.2	54.6	0.2%
West Midlands	53.5	50.7	50.1	6.8%
Yorkshire & Humber	53.4	53.1	49.8	7.2%
UK	52.4	51.4	51.0	2.7%
Mean	52.3	51.0	51.0	2.6%
South East	48.9	49.3	47.5	2.9%
London	48.4	48.9	47.7	1.5%
East of England	47.8	45.7	49.0	-2.4%
North East	44.7	45.2	44.9	-0.4%

Source: Small Business Service

- 3.24 Innovation has been identified by Schumpeter and Drucker, amongst others, as an entrepreneurial process that leads to growth.¹¹ Conclusions from the Third Community Innovation Survey indicate that the region has a higher proportion of novel product innovation than the UK average (and around the same proportion of novel process innovation).¹²
- 3.25 Given the high levels of turnover generated by small and medium enterprises (Table 6 above), it is likely that smaller firms in the region will contribute to these high levels of product-related innovation. Based on the Schumpeterian logic that innovation generates growth, this suggests that at least some small and medium enterprises are growing and entrepreneurial because of their high levels of innovation.¹³
- 3.26 Analysis of employment growth in surviving small firms indicates that patterns of growth vary within the region.¹⁴ Employment amongst surviving small firms involved in manufacturing increased by 14.5% between 1994 and 1997, which was the 6th highest increase of the eleven UK regions and just above the UK overall increase of 14.4%. Employment growth in the same period amongst small service sector firms was 12.6%,

⁹ OECD (1998) *Fostering Entrepreneurship*.

¹⁰ emda (2005) *RES Interim Evidence Base: The East Midlands 2005* East Midlands Development Agency, Section 3, paragraph 3.3, p. 18

¹¹ Drucker P (1995) *Innovation and Entrepreneurship*

¹² Oughton C (2005) 'Innovation Policy' Paper prepared for emda RES review.

¹³ Audretsch D and Thurik R (2002) 'What is new about the new economy: sources of growth in the managed and entrepreneurial economies' *Industrial and Corporate Change* 10, pp. 267-315. See also van Stel A and Storey D (2004) 'The link between firm births and job creation: Is there a Upas tree effect?' *Regional Studies* 38(8), pp. 893-909.

¹⁴ All data and findings in this part of the paper taken from Hart M and McGuinness S (2003) 'Small firm growth in the UK regions, 1994-1997: Towards an explanatory framework' *Regional Studies* 37(2), pp. 109-122.

the fourth highest increase in the UK regions but below the UK total of 13.3%.

- 3.27 However, it is the variations within the East Midlands itself that are more marked (Table 7). Growth amongst surviving small manufacturing firms was particularly high, and above the regional and national totals, in Lincolnshire & Rutland and in Northamptonshire. Growth in small services firms was above the regional and national totals in Northamptonshire. There were also local disparities between growth in manufacturing and services that were particularly noticeable in Lincolnshire and in Nottinghamshire, where small service firms employment growth was low. This implies that there are locational variations in small firm growth patterns.¹⁵

Table 7: Employment Growth in Small Manufacturing and Service Firms in the East Midlands, 1994-1997

Unitary authority-county council area	Manufacturing: Percent employment growth, 1994-1997	Services: Percent employment growth, 1994-1997
Derbyshire	12-14	12.5-13.5
Leicestershire	12-14	12.5-13.5
Lincolnshire & Rutland	16-18	<11.5
Northamptonshire	16-18	14.5-24
Nottinghamshire	14-16	<11.5
UK Total	14.5	13.3
East Midlands	14.4	12.6

Source: Taken from Hart and McGuinness (2003)

Competitive clusters and groupings

- 3.28 Clusters of firms, and labour, have been shown to generate regional growth through economies of scale arising from co-operation and spillover effects.¹⁶ In most cases, clusters are seen to encourage and stimulate entrepreneurship through increased levels of new firm formation.¹⁷ There is therefore a broadly positive relationship between clusters and entrepreneurship in regions that leads to greater economic opportunity and development through growth. There is some debate around the notion of a cluster in a regional policy context. In broad terms, there appear to be several different models that could be and are being applied. These include: (1) sectoral clusters, i.e. spatially concentrated industries as measured by SIC code or similar metric; (2) local groupings of competitive firms with common markets; (3) spatial agglomeration effects, that occur through dense location of firms and labour in cities and larger settlements; (4) micro-clustering amongst small and very small groups of firms.
- 3.29 Five key sectoral clusters and four potential sectors have been the focus of emda's clusters policy since its initiation in 1999. These nine sectoral concentrations were identified in the DTI's review of the location of industries across the UK, *Business Clusters in the UK*, which concluded that 27% of regional employment is within these

¹⁵ Hart M and McGuinness S (2003) 'Small firm growth in the UK regions 1994-1997: Towards an explanatory framework' *Regional Studies* 37(2), pp. 109-122.

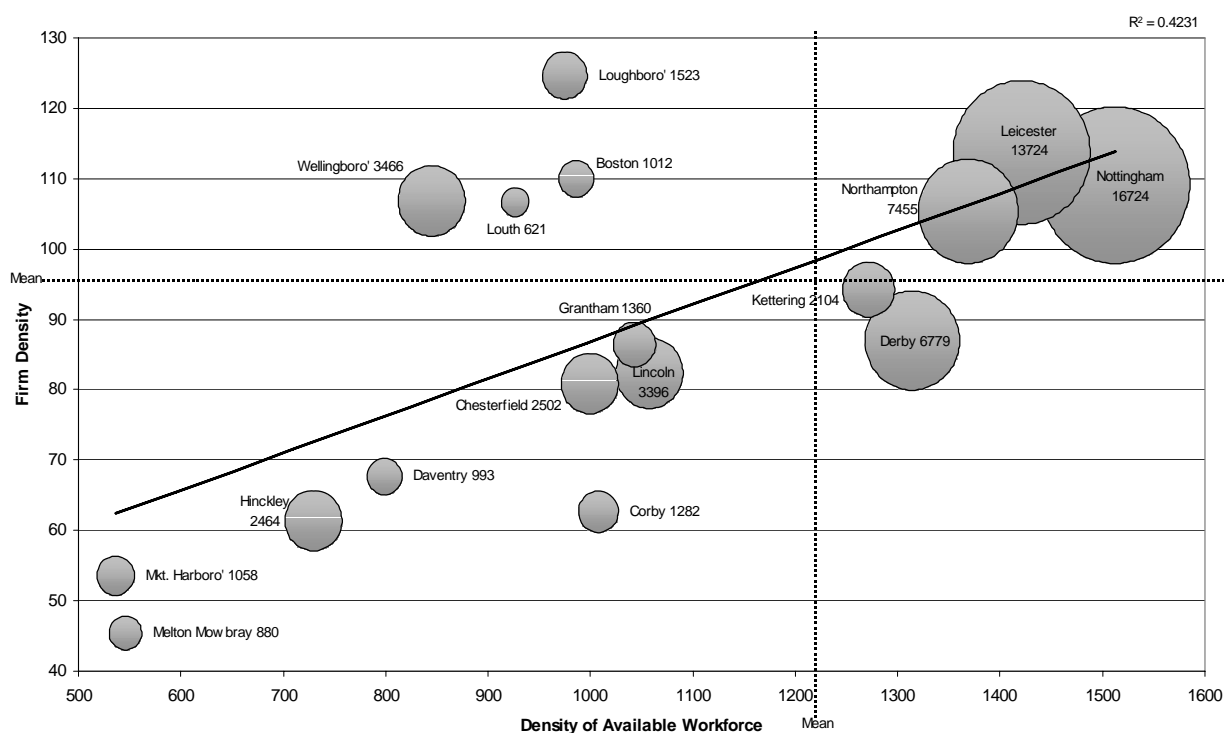
¹⁶ Martin P and Ottaviano G (1999) 'Growing locations: Industry locations in a model of endogenous growth' *European Economic Review* 43, pp. 281-302.. Martin P and Ottaviano G (2001) 'Growth and agglomeration' *International Economic Review* 42, pp. 947-968

¹⁷ Acs Z and Armington C (2004) 'Employment growth and entrepreneurial activity in cities' *Regional Studies* 38(8), pp. 911-928. Audretsch D and Keilbach M (2004) 'Entrepreneurship capital and economic performance' *Regional Studies* 38(8), pp. 949-960.

identified clusters. This report also concluded that sectoral clusters are of particular importance to the region's economy. Two of these clusters (aerospace and toiletries) have since been identified as of "international significance" in *The State of the Region's Economy* and two as declining (clothing and footwear).¹⁸

- 3.30 An alternative approach to mapping clusters through sectoral concentrations and market competitiveness is to focus on likely agglomeration effects arising from the location of firms close to each other. Agglomeration economies arise from locational proximity through enhanced opportunities to collaborate and via 'spillover' effects, typically relating to the transfer of knowledge between firms and human capital improvements in the workforce. Agglomeration effects from these forms of clustering indicate that the East Midlands has a range of settlements where agglomeration effects are more or less likely to occur, and so identify where local concentrations of economic growth are likely to occur.
- 3.31 These likely agglomeration effects are summarised in Diagram 7.¹⁹ The analysis identifies four major concentrations of firms in the region that are likely to enjoy some agglomeration economies. These are: Nottingham, Leicester, Northampton and Derby. There are also several smaller settlements where firm densities are as high as and higher than in the four cities, suggesting local agglomeration effects.

Diagram 7: Likely Agglomeration Effects in the East Midlands



¹⁸ DTZ Pida (2002) *The East Midlands – The State of the Region's Economy* Report produced for emda.

¹⁹ Analysis taken from Atherton A and Johnston A (2005) 'Mapping the structure of regional economies: A framework for assessing regional distributions of economic activity' Lincoln Business School, University of Lincoln.

- 3.32 A more localised, ‘bottom-up’ perspective on clusters also provides an alternative perspective on business concentrations in the East Midlands. There are indications that ‘top-down’ mapping of clusters, although useful for understanding regional sectoral and competitive strengths, can suffer from two disadvantages. The first is that the aggregation of sectoral data hides smaller concentrations of more specialised groups of firms.²⁰ The second is that clusters formation is often small-scale, especially during its initial stages of emergence and formation. Even amongst well-established cases, what is termed a cluster can in practice be made up of many ‘micro-clusters’ of collaborating firms that secure economies of scale through flexible forms of co-operation.²¹
- 3.33 A recent study in Lincolnshire suggests that there are up to ten local ‘micro-clusters’ and groupings in the county that account for a proportion of economic activity and growth.²² Some of these groupings (in food and engineering, in particular) could be considered sub-sets of clusters identified at regional level. However, their dynamics of interaction and co-operation were localised rather than regional, and they demonstrated ties and collaborative relationships with firms in Lincolnshire that did not extend to other parts of the identified regional cluster. Similar cases of highly localised sub- or micro-clusters can be identified in other parts of the region, such as ethnic foods and clothing in Leicester and supplier groups around Rolls Royce in and near Derby. These examples suggest that a more fine-grained assessment of micro-clusters and local groupings at a sub-regional level will point to a large number of such networks and localised concentrations of collaborating firms.
- 3.34 Whether a sectoral, competitiveness, firm density or micro-clusters approach to clusters identification and analysis is adopted, the East Midlands demonstrates a range of specific clusters and of agglomeration effects. These cases provide scope for regional growth and development and are also likely to lead to greater levels of entrepreneurship, both through new firm formation to take advantage of and participate in agglomeration economies and because positive spillover effects will enhance the innovativeness of participating businesses. The current state of clusters development in the East Midlands therefore suggests that they will support entrepreneurial development within the region.

Entrepreneurial institutions

- 3.35 Data on how entrepreneurial institutions are and how effective organisations are at stimulating and enabling entrepreneurship are not readily available for the region. Arguments have been made that organisations providing services to smaller firms and entrepreneurs should be more entrepreneurial in their approach and principles.²³ These broad observations do not, however, translate into a means of establishing how entrepreneurial institutions are in the East Midlands, nor for comparing the region with other parts of the country.

²⁰ Braunerhkelm P and Borgman B (2004) ‘Geographical concentration, entrepreneurship and regional growth: Evidence from regional data in Sweden, 1975-1999’ *Regional Studies* 38(8), pp. 929-948.

²¹ Atherton A (2003) ‘Examining clusters formation from the ‘bottom-up’: An analysis of four cases in the North of England’ *Environment and Planning C: Government and Policy* 21, pp. 21-35.

²² University of Lincoln (2004) *Developing the Ties that Bind: Report on Clusters in Lincolnshire to Lincolnshire Development and Lincolnshire Enterprise*.

²³ E.g. Gibb A and Haas Z (1996) ‘Developing local support services for small business development in Central and Eastern Europe – The donor challenge’ *Entrepreneurship & Regional Development* 18, pp. 197-216.

- 3.36 Qualitative assessment of what may be termed the network of enabling organisations that provide enterprise development services (EDS) suggests that there are likely to be drivers of entrepreneurial behaviour for these organisations in the East Midlands. However, the lack of certain types of EDS institution suggests that there are still needs to enhance the EDS 'system'.
- 3.37 In broad terms, the dynamics occurring within the region's Business Links appear likely to stimulate more entrepreneurial approaches to the provision of EDS. Several Business Links have established private arms or associated ventures that offer EDS and related services to smaller firms and their employees, entrepreneurs and potential starters. Operating in the private sector, where success is determined by customer satisfaction and consumption, is likely to make these entities more entrepreneurial, which in turn is likely to infuse a more entrepreneurial ethos into the activities of these Business Links.
- 3.38 There are some specific cases of good practice in local EDS and economic development activity that indicate entrepreneurial activity and ethos. In both of the region's largest cities, local partnerships have established themselves around themes such as skills development, local economic development and urban regeneration. Such partnerships are likely to stimulate entrepreneurial behaviour in EDS institutions in two ways. Firstly, greater working across organisational boundaries generates more entrepreneurial opportunities and behaviours. And, secondly, these partnerships are able to secure greater levels of resource for EDS and related activities within these cities.
- 3.39 There are also some specialist organisations that have been successful in developing and offering specialist EDS and related services. One example is the Centre for Enterprise, based in Leicester, which is involved in a broad range of enterprise and related development activities in the region, and has stimulated innovative approaches to EDS. Another example is the Business Champions network, which has provided a conduit for entrepreneurs and entrepreneurial managers to inform debates and thinking within emda and other regional agencies on enterprise and economic development in the East Midlands.
- 3.40 One type of EDS organisation that has been particularly entrepreneurial in its approach and ethos are enterprise agencies. Although there are notable examples of these agencies across the region, they appear less well represented than in some other regions. Enterprise agencies have been particularly entrepreneurial because they have had to develop strategies to become sustainable from their own income sources, and because of their close links with new and entrepreneurial ventures. They also tend to be embedded in business networks, and so have high credibility with entrepreneurs. The relative under-representation of enterprise agencies suggests that 'bottom-up' and local services for new ventures are likely to be less developed than may be optimal for the region.²⁴
- 3.41 There appears, in summary, to be a regional EDS network that is broadly entrepreneurial. However, certain types of organisation, and hence certain services and means of engaging with entrepreneurs, may be under-represented. Current initiatives by emda, such as the development of a 'Universal Start-Up Offer' are likely to address some of these issues. However, there may be a need to stimulate the broader private

²⁴ Gibb (1987) argues that local and 'bottom-up' approaches to start-up can be highly effective in increasing rates of new venture creation. See Gibb A (1987) 'Designing effective programmes for encouraging the business start-up process' *Journal of European Industrial Training* 11(4), pp. 24-32..

and ‘third’ sector population and capacity of providers; an approach that has been established as good practice in international enterprise development.²⁵

Efficient infrastructure

- 3.42 The efficiency of infrastructure, in terms of the costs of shipment of goods and inputs for firms, can affect both location decisions for firms and their ‘reach’, in distribution and logistics, into regional and cross-regional markets.²⁶ The RES Evidence Base indicates that road traffic increases have been high and well above the UK mean over the ten years from 1993 to 2003. At the same time, road safety has improved less quickly than the overall UK rate. Average road speeds are, however, broadly comparable with many other regions. Rail travel has increased substantially over the period, well above the national average rate. In addition, the region’s key airport has experienced a major increase in its share of national air shipment of freight.
- 3.43 The possible implications of these trends in relation to the efficiency of transportation appear to be two-fold. Firstly, road congestion appears to be worsening, which points to an increase in the time-costs of shipment using this channel of distribution. Air and rail shipment of goods and labour respectively have increased, suggesting greater mobility of products and factor inputs via these channels. There is, in other words, no clear indication that the travel and distribution infrastructure network in the region provides ‘net’ shipment efficiencies or inefficiencies to entrepreneurs and entrepreneurial firms.

Economic conditions

- 3.44 The RES evidence base identifies several characteristics of the East Midlands economy that drive productivity. Although overall levels of productivity have improved in the region, and are now almost at the UK average – placing the region fourth in England – UK productivity lags behind ‘benchmark’ nations such as France, Germany and the United States.

Nationally, in other words, the East Midlands is an improving region in productivity terms (and hence in terms of its ability for endogenous growth through increased output for constant levels of factor inputs). Internationally, the region, like the country, lags behind the most productive economies.

- 3.45 As is evident in Table 8, the identification of high levels of, and growth in, start-up rates – as measured by two different data sources – indicates that conditions in the East Midlands are conducive for new venture creation. Trends in the survival of new firms, based on VAT data, also indicate that prospects for survival are good, in that the net stock of new businesses has grown year-on-year for almost a decade. From this perspective, economic conditions within the East Midlands are, in broad terms, positive for entrepreneurship.

²⁵ The ‘new market paradigm’ argues that private sector providers are central to enterprise development and wealth creation in developing countries, because they create a private market for EDS and because they do not have the governance problems associated with non-governmental associations and government agencies. See Bear M, Gibson A and Hitchins R (2004) ‘From principles to practice: Ten critical challenges for BDS market development’ *Small Enterprise Development* 14(4), pp. 10-23.

²⁶ McCann P (2001) ‘A proof of the relationship between optimal vehicle size, haulage length and the structure of distance-transport costs’ *Transportation Research* 35(8).

Table 8: Strengths and Weaknesses in Regional Productivity

Productivity Driver	Regional Strength	Regional Weakness
Investment		Lower than average levels of investment by companies, especially in the service sector.
Innovation	Overall levels of R&D relatively high.	Concentrated in a small number of large global companies. Low levels of government & HE funded R&D.
Skills	Close to full employment.	'Low skills low wage' economy leads to lower productivity.
Enterprise	Increasing levels of TEA. Increasing VAT start rates and net stock.	
Competition	Exports account for a greater share of output than almost all other regions. UK economy has high levels of competition.	

Source: RES Interim Evidence Base: The East Midlands 2005

4. Conclusions for the Region: An Entrepreneurial East Midlands?

- 4.1 By applying the framework of a regional economy to the East Midlands, this paper has provided a broad characterisation of levels and dynamics of entrepreneurial activity in the region. The analysis has been shaped by the data that are available. For some components of the framework, extensive data exist, from multiple sources, which provides a more substantive basis for applying the framework. For other components, assessments have been more qualitative and have had to rely on inferred analysis and conclusions. With that proviso, Table 9 provides a summary of the entrepreneurial capacity of the East Midlands.
- 4.2 What may be termed the core of an entrepreneurial region, namely entrepreneurs starting and running businesses that survive and grow, appears to be relatively strong in the East Midlands. Business stocks and start-up rates are rising, prospects for survival are good when compared to other regions in the UK, and there are strong networks and groupings of businesses, at different geographical and transactional levels.
- 4.3 There are also indications that there are individuals who have the potential to move from awareness of start-up as an option to active exploration as a precursor to new venture creation. The cultural barrier to entrepreneurship in the region, in other words, appears to be in moving individuals with apparent entrepreneurial potential to engaging actively in exploring start-up as an option. Although it is likely that many will still not decide to start a business (for a multiplicity of reasons), an increase in the number exploring new venture creation as a personal option is likely to lead to higher numbers of new businesses being launched.
- 4.4 Small firm growth patterns do not appear to be as strong across the region as start-up and survival trends. Indeed, the analysis undertaken by Hart and McGuinness (2003) suggests that small firm growth varies considerably from county to county. Greater growth of small firms involved in manufacturing than in services suggests that the concentration of economic activity in manufacturing in the region when compared with other regions is particularly evident amongst small firms. The study identified 4,412 small manufacturing firms to 7,095 small service firms.

Table 9: Assessment of the Entrepreneurial Capacity and Potential of the East Midlands

<i>Entrepreneurial Dimension</i>	<i>Overall Assessment</i>	<i>Issues for the Development of the Region</i>
Entrepreneurial culture	Entrepreneurial potential exists, but often is not converted into new business start-up.	Conversion of potential into greater number of start-ups.
Working entrepreneurially	Evidence of entrepreneurial working, in firms as well as through engagement in start-up.	Opportunities to reinforce 'intrapreneurship.' Why are numbers of SMEs per population measure still low, given increases in start-up?
Start-up	Growing stock of businesses and net growth in starts.	To what extent has the quality of new businesses improved (or not) as the overall trend has risen?
Survival	Prospects for survival improving.	Are there opportunities to address the 'drop-off' in survival in years 2 and 3?
Growing firms	Some evidence of a number of innovative smaller firms in the region.	How many small entrepreneurial growing firms are there and how innovative are they?
Clusters and clustering	Evidence of some clusters – and also agglomerations and micro-clusters.	Has the region made the most of agglomeration effects on local performance? Should micro-clustering be encouraged?
Entrepreneurial institutions	Broadly entrepreneurial, but perhaps insufficient capacity in certain areas.	Are current EDS institutions appropriate for and matched with entrepreneurial development in the region?
Infrastructure	Rail and air travel and shipments increased significantly, but some indication of increased road congestion.	How important are efficiencies in shipment costs to entrepreneurial activity in the region?
Economic conditions	Conducive to business start-up and prospects for survival of new ventures.	How innovative are firms in the region, and could more be done to encourage BERD?

- 4.5 Data on clusters and clustering suggest that entrepreneurial firms may be involved in micro-clusters and agglomeration effects in major cities, as well as in sectoral concentrations and competitive groupings. Instances of local micro-clustering, as identified in Lincolnshire, and strong agglomeration effects in the region's largest cities, suggest that these are likely to be milieux where inter-firm innovation and adaptation is occurring. The findings suggest, as a result, that these forms of clustering dynamic that will be enabling of entrepreneurial innovation.
- 4.6 Data and findings on the last three components are more indicative, and based on qualitative assessments. Enterprise development service providers are broadly entrepreneurial, although perhaps lacking in capacity in some areas. Data on

infrastructure do not provide definitive indication of the efficiency of the regional infrastructure, but do imply that there are constraints on distribution and shipment (roads) and indications of greater mobility of goods and labour (air and rail). Economic conditions suggest that the regional economy is broadly conducive to start up, supporting data finding increasing rates of new venture creation in the East Midlands.

- 4.7 In sum, the region has a healthy start-up rate and good prospects for survival amongst new firms. It has some evidence of small firm growth, although this appears sectorally and locationally variable. 'Bottom-up' as well as 'top-down' dynamics of clustering create favourable conditions for innovation and productivity improvements (through spillover effects). Enabling institutions appear to operating in ways that are increasingly entrepreneurial and the general economic environment is broadly conducive for entrepreneurship. Overall, the East Midlands appears therefore to be quite entrepreneurial, but perhaps needing strengthening of some components of a regional economy.

Component	Factors	Themes	Source
A Culture of Entrepreneurship: A Significant Proportion of the Population Considering Starting Their Own Venture	Awareness:	'Perceptions of the difficulty of getting into business can be changed through exposure to cases, stories and interactions with successful entrepreneurs (e.g., If that person can get into business, then I can get into business too!).'	Gatewood, 1995, 385
		'The rate or level of entrepreneurship at the societal level depends upon the opportunities provided by the environment as well as the capabilities and preferences of the population.'	Hofstede, 2004; 7
		'Seek to increase entrepreneurial awareness by addressing the underlying attitudes in their community to enterprise, risk and the business culture, and to improve information, pre start-up advice, and aftercare services (i.e. services once the company is up and running) to those wishing to start up their own business'	McQuaid, 1994; 12
		'New business opportunities are essential for job creation and need to be promoted by encouraging greater entrepreneurial awareness across society'	C.E.C. 2000
	Interest:	'Since it was found that a high proportion of the population expressed an interest in becoming entrepreneurs but did not go on to do so, the main focus was on converting potential into actual entrepreneurs by "making more people aware of the advantages of starting a business; building greater appreciation of the role that entrepreneurs play in the creation of jobs and the development of the economy; and seeking greater coverage of successful entrepreneurs in the media" (Scottish Enterprise, 1996).'	Gavron, 1998; 52
		'Understanding the factors that influence and shape individuals' intentions of starting a business is critical if programs and policies are to be developed to encourage entrepreneurial behaviour'	Kennedy, 2001; 2
		It is expected...that where an enterprising culture can be developed there will be an increased level of interest in self employment and consequently new business creations and job opportunities. Therefore, one such measure of an enterprise culture is the level of interest in small business ownership'	Breen, 1998: 2
		'...the primary determinant of entrepreneurial intention is a person's conviction that starting and running one's own firm is a suitable alternative for him/her. This conviction is in its turn based on certain general attitudes and domain attitudes'	Davidsson, 1995; 1
		'Given that the decision to found a firm can be regarded as reasoned action or planned behavior--which seems reasonable--the relationship between intentions and actual behavior should be fairly strong (Ajzen, 1991; Sheppard, Hartwick & Warshaw, 1988)'	Davidsson, 1995; 2-3
		'Intentionality is defined by Bird (1989: 8) as "... a conscious state of mind that directs attention (and therefore experience and action) toward a specific object (goal) or pathway to achieve it (means)".'	Bird, 1989; 8
		'...it is recognised that situational variables are very important in the decision to start a business; it is the convergence of attitudes and situational factors that leads to business start-ups (Shapero, 1982; 103)'	Kennedy, 2001; 2
		'[Measuring entrepreneurial activity from a] dynamic perspective several indicators can be used including nascent entrepreneurial activity (the prevalence of people having made the decision to start a new business and actively engaged in activities to launch the firm), gross entry of new business start-ups, net entry (gross entry minus business closures or exit) and the turbulence rate (total of entry and exit).'	Wennekers, 2002; 4
	Intention:	'[The] most important aspects of entrepreneurial behaviour are the choice of becoming one (starting a new firm)'.'	Brons, 2000; 1
		'Entrepreneurship is a way of thinking, a way of thinking that emphasizes opportunities over threats. The	Krueger,

		opportunity identification process is clearly an intentional process, and, therefore, entrepreneurial intentions clearly merit our attention.'	2000; 411
		'Nascent entrepreneurs are individuals who were identified as taking steps to found a new business but who had not yet succeeded in making the transition to new business ownership.'	Carter, 1996:151
		'A nascent entrepreneur is defined as a person who is now trying to start a new business, who expects to be the owner or part owner of the new firm, who has been active in trying to start the new firm in the past 12 month'	Wagner, 2004a; 3
		'As new organizations emerge over time, pre-organizational phenomena such as deciding to initiate an entrepreneurial career are both important and interesting (Bird 1988; Katz and Gartner 1988).'	Krueger, 2000; 413
		'Intentions toward behaviour are absolutely critical to understanding other antecedents. These include situational role beliefs, subsequent moderators, including the perceived availability of critical resources, and the final consequences, including the initiation of a new venture (or lack thereof).'	Krueger, 2000; 413
		'Reasons and motivations leading to start-up have traditionally been regarded as an important element influencing not only the start-up of the new business but also its characteristics, survival, and performance (McClelland 1961; Brockhaus 1980, Atkinson and Hilgard 1983; Hofer and Sandberg 1987; Begley and Boyd 1987; Jenssen and Kolvareid 1991).'	Birley, 1994; 9
		'Ajzen argues that intentions in general depend on perceptions of personal attractiveness, social norms, and feasibility. Shapero argues that entrepreneurial intentions depend on perceptions of personal desirability, feasibility, and propensity to act'	Krueger, 2000;411
		'How strong a link is there between intentions and action? Kim and Hunter (1993) found that personal desirability and social norms explained 76% of the variance in intentions, while intentions explained 67% of the variance in behaviour. Ajzen (1991) found that adding a measure of perceived feasibility explains an additional 10% of variance typically explained by traits or other dispositional measures (Ajzen, 1987).'	Diochon, 2002; 3
		'By contrast, the model of the entrepreneurial economy is the political, social and economic response to an economy dictated not just by the dominance of the production factor of knowledge - which can be identified as replacing the more traditional factors as the source of competitive advantage – but also by a very different, but complementary, factor: entrepreneurship capital, or the capacity to engage in and generate entrepreneurial activity.'	Wennekers, 2004; 4
		'There has been a constant increase since 2002 of individuals expecting to start a business over the next three years from 4.6% to 9.5% in 2004.'	GEM, 2004; 3
A Significant Proportion of the Population Should Be	Working for Themselves:	'...self-employment is defined as the percent of a country's population that is self-employed, using a broad definition that includes single-employee firms as well as CEOs of multi-employee establishments. Though not an ideal measure of entrepreneurship, self-employment has the advantage that it is readily available as a comparable measure across a large number of countries and a long period of time (Wennekers and Thurik, 1999).'	Uhlaner, 2003; 3
		'The share of self-employment in the labour force has declined in many Western countries during the greatest part of this century. The main reasons for this decline were increasing opportunity costs of self-employment versus salaried employment and increasing economies of scale. Since the mid-seventies there is a reversal of this trend, due to among others an increasing variety of demand for specialised goods and services and an enhanced appreciation of self-employment as a career option.'	Wennekers, 1999; 1
		'A number of recent studies have attempted to identify the factors responsible for the dramatic rise in self-	Robson,

	employment which has been experienced in the United Kingdom over the past twenty years (Blanchflower and Oswald, 1990; Parker, 1996; Robson, 1998).’	1998; 313
	‘...the increased degree of uncertainty creates opportunities for small and young firms, and hence leads to higher rates of entrepreneurship, including higher rates of self-employment.’	Uhlaner, 2003; 2
Working in Entrepreneurial Firms:	‘A stylised fact emerging from a vast number of empirical studies on the inter-regional differences in new firm formation is that the start-up rate in a region tends to be positively related to the share of employees working in small firms, or the proportion of small firms among all firms in the region (see, e.g., Mason 1991, Audretsch and Fritsch 1994, Gerlach and Wagner 1994, Reynolds, Storey and Westhead 1994, Armington and Acs 2002).’	Wagner, 2004b; 1
	‘Through a close contact to a successful entrepreneur people in a young firm have the opportunity to gather information about the transition from paid employment to self employment with all its problems, and about possible solutions (see, e.g., Sorensen and Audia, 2000).’	Wagner, 2004b; 1
	‘Controlling for various individual characteristics and attitudes (sex, age, risk aversion, presence of a role model in the family, and the width of professional background) it demonstrates both the statistical significance and the economic importance for entrepreneurship of work experience in a firm that is both young and small.’	Wagner, 2004b; 8
	‘This paper provides micro-econometric evidence for the thesis that entrepreneurship breeds entrepreneurship both at the individual level (see the positive impact of the presence of a role model in the family) and at the regional level.’	Wagner, 2004b; 9
	‘In one view, employees of established firms are trained and conditioned to be entrepreneurs by being exposed to the entrepreneurial process and by working in a network of entrepreneurs and venture capitalists.’	Gompers, 2002; 1
	‘[W]ould-be entrepreneurs learn how to found companies by participating in the entrepreneurial process alongside other, more experienced entrepreneurs.’	Gompers, 2002; 3
	‘People find that, if one is successful, why should not also others be able to succeed, as they have closely seen their neighbour or maybe even their former employer, from whom they have broken loose, do. In this way emerges, through the power of the good example, one firm after the other within the same industry close to one another in the same place.’	Althin, 1948; 96
	‘The awareness of entrepreneurial opportunities depends on having the experience needed to recognize and evaluate opportunity. Self-employment may be more likely if individuals have developed useful information for entrepreneurship from previous work experience, as such information reduces uncertainties associated with self-employment’	Smith, 2004; 84
Working in an Entrepreneurial Way:	‘Entrepreneurship is defined by how firms and people behave, not by what they produce. And it is concerned as much with the environment within which they operate as it is with entrepreneurs and companies themselves’	Gurwitt, 1998; 57
	‘Entrepreneurial behaviour involves the activities of individuals who are associated with creating new organizations rather than the activities of individuals who are involved with maintaining or changing the operations of on-going established organisations.’	Gartner, 2003; 198
	‘Entrepreneurship can be viewed as the process of creating innovation. It involves identifying an opportunity in the marketplace and drawing on personal capabilities to assemble the resources needed to capitalize on it. The creation of a new business epitomizes this process.’	Diochon, 2002; 1

		'Entrepreneurial capacity and behaviour are prime drivers of economic growth and job creation. Entrepreneurs are necessary visionaries of the economic potential of new technologies and how to apply them to business concept innovations.'	DeVol, 2004; 7
Healthy Start-Up Rates:	Overall Numbers Starting:	<p>'Early studies focused on factors such as tax rates, transportation costs and scale economies at the plant level (Bartik, 1989, Kieschnick, 1981). Reynolds et al. (1994) found that factors such as unemployment, population density, industrial clustering and the availability of financing were important in explaining regional variation in firm birth rates. Armington and Acs (2002) found that industrial intensity, income growth, population growth and human capital were closely related to new firm formation.'</p> <p>'In 2004, the UK government announced that 'building an enterprise culture' and 'encouraging a dynamic start-up market' were the first two of the 'seven pillars' of small business policy'</p> <p>'By the 1980s evidence mounted to demonstrate that this move away from large firms toward small, predominantly young firms was a sea change, not just a temporary aberration of the 1990s.'</p> <p>'As a concrete manifestation of a vibrant entrepreneurial culture, one would expect to observe (i) a high rate of firm formation and a high prevalence of nascent entrepreneurs, and (ii) that the most viable commercial ideas are translated into a sizable number of high-growth firms.'</p> <p>'Many countries are seeking to increase their entrepreneurial vitality in recognition of growing evidence that a high level of entrepreneurial activity, measured in terms of high business start-up and exit rates, contributes to economic growth and development.'</p> <p>'Self-employment or business ownership rate is the most important static indicator of entrepreneurship (EIM/ENSR, 1995). Self-employment refers to people who provide employment for themselves as business owners.'</p> <p>'There is broad agreement at a policy level that new business creation is an integral component of an entrepreneurial and dynamic economy (DTI, 2000; EC, 2003; OECD, 1998; Reynolds et al., 2000). Start-ups and self-employment are seen as important sources of new wealth and jobs, as well as a means of enhancing overall competitiveness as entrants seek out and create new business opportunities and activities (e.g. DTI, 2000; EC, 2003).²⁷</p> <p>'Econometric models showed regional firm births to be positively correlated with innovation and regional growth (employment, wage and productivity).'</p> <p>'New firm start-ups (entries) contribute to economic growth by increasing competition and introducing new innovative products.'</p>	<p>Lee, 2004; 882</p> <p>Stel, 2004; 894</p> <p>Hofstede, 2004; 3</p> <p>Davidsson, 2002; 81</p> <p>Stevenson, 2001; 11</p> <p>Wennekers, 2002; 4</p> <p>Atherton, 2005; 1</p> <p>Camp, 2005; 2</p> <p>Stel, 2002; 7</p>
	Diversity in Start-Ups:	'Changes in the economy [have made] a healthy start-up rate even more important; high quality new businesses are necessary to build a competitive small and medium-sized firm sector'	Gavron, 1998; 8

²⁷ Although in a recent special issue of Regional Studies the valid point was made that the term 'competitiveness' is used liberally, if not loosely, in policy justifications for intervention and the formulation of policy priorities: "The notion of competitiveness is one that informs every economic policy document at every level of government and governance. Rather like globalization, the repetition of the term 'competitiveness' sheds much heat but little light. Competitiveness has become a generic term that is applied widely to a variety of business and economic circumstances." (Budd and Hirmis, 2004).

Improving Survival Rates:	More Businesses Surviving:	'In the model of the entrepreneurial economy the process of generating new ideas, both within and outside R&D laboratories, creates a turbulent environment with many opportunities for entrepreneurs to start new firms based on different and changing opinions about different and changing ideas'	Audretsch, 2004; 9
		'In the entrepreneurial economy, decentralized decision-making in an industrial structure comprised of smaller firms leads to a greater diversity of approaches [or innovative activity]'	Audretsch, 2000; 10
		'A diversity of activities is argued to facilitate the exchange of new ideas and therefore greater innovative activity and (dynamic) efficiency'	Audretsch, 2000; 16
		'Recent studies have provided evidence testing for the impact of diversity versus specialization on the performance of regions, measured in terms of growth (Glaeser, Kallal, Scheinkman and Shleifer, 1992) and in terms of innovative activity (Feldman and Audretsch, 1999). These studies provide systematic empirical support for the thesis that diversity is more conducive to knowledge spillovers and ultimately innovative activity and subsequent growth than is specialization'	Audretsch, 2000; 17
		'Economic diversity is a key factor in city and regional growth, as creative people from varied backgrounds come together to generate new and novel combinations of existing technology and knowledge to create innovation and, as a result, new firms'	Lee, 2004; 882
		'Diversity in the population of economic agents may ultimately lead to diversity in the types of firms populating the enterprise structure. These diverse firms represent experiments, based on differing visions about the value of new ideas. Just as evolutionary theory explains why diverse ideas result in a population of diverse firms, it also explains why only some of those new ideas and firms will prove viable through the selection mechanism.'	Audretsch, 2002; 10
		'Over the long haul, the key to regional sustainability is the diversity of its ecosystem. A [region] must be able to innovate, start, grow and attract new firms continually to augment the diversity of its economic ecosystem and replace larger, older firms that may stagnate, exit or even disappear.'	DeVol, 2004; 7
		'Understanding the factors that enhance or restrict their performance is essential for small business managers as well as policy makers. If the performance of small firms could be improved, much would be gained for the small firms themselves as well as society in general.'	Wiklund, 1999; 2
		'Evidence from US and French studies suggests that pre-start advice and training has a significant impact on the survival of firms...the US data implied that pre-start training had a greater impact than on-going advice, probably because it helps screen out unsuitable starts and sets the business on the right footing.'	Gavron, 1998; 68
		'There are a number of sectoral variables which may be expected to impact on firm duration. Sectoral growth rates, sectoral employment growth rates and sectoral growth value-added are all expected to have a positive impact on survival, since increases in these variables are expected to be associated with expanded market opportunities.'	Holmes, 2000; 12
	Fewer Businesses Failing, Especially for Avoidable Reasons:	'Pre-start advice appears to have a strong influence both by preparing the potential entrepreneur and acting as a screening mechanism for unsuitable candidates. Access to appropriate advice whether from public or private agencies or from mentors and peer groups can also have positive effects on survival'	Gavron, 1998; 39
		'Some general knowledge gaps may include understanding cash flow, poor location selection, lack of market information or understanding, and poor marketing practices. All of these knowledge gaps are avoidable through proper management.'	Bradley, 2004; 3

		<p>'Some small business owners neglect to seek advice from external sources. Many external firms or agencies could provide direction or solutions for small business problems.'</p> <p>'Overall, the UK does not need to increase the number of small firms. Advice to firms on administrative and organisational matters should be provided before start-up'</p>	<p>Bradley, 2004; 12</p> <p>Mole, 2002; 10</p>
	Enabled Closure for Exit as Options:	<p>'At this point, one thing is clear - low barriers to the entry and exit of businesses are necessary conditions for the creation of entrepreneurial vitality. If new firm entry is so important to the economy, this suggests that public policies should be more oriented towards removing barriers to business entry (and exit) and stimulating the supply of future entrepreneurs.'</p> <p>'The creation of new businesses and the decline or market exit of less productive firms are often regarded as key to business dynamism and economic growth in OECD economies'</p> <p>'Firm entry and exit are ascribed an important role in theories that stress the process of "creative destruction" as a mechanism which facilitates innovation or new technology adoption, helping to shift resources from less productive units to more productive ones.'</p> <p>'...the conclusion now widely accepted is that policy should aim to stimulate competition by discouraging entry and exit barriers, for 'reallocation of market share' involves the rapid growth of more productive businesses and the stagnation or exit of the less productive.'</p> <p>'The productivity of entrants varies more widely than that of existing firms. The role of entrants is to promote exit of the least productive firms. Those firms that exit employ fewer workers than the average existing firm and have lower productivity.'</p>	<p>Stevenson, 2001; 18</p> <p>Brandt, 2004; 10</p> <p>Brandt, 2004; 11</p> <p>Foreman-Peck, 2003; 7</p> <p>Mole, 2002; 6</p>
A Large Proportion of Entrepreneurial Firms That:	Grow and Sustain Growth:	<p>'(Audretsch and Thurik, 2001) concluded that changes in the relative role of entrepreneurship affects growth rates within countries and that, on average, a shift towards smallness is associated with a higher growth acceleration.'</p> <p>'A community that wishes to be competitive in the future must grow its own new companies, particularly highly-competitive, fast-growing "gazelle" firms.'</p> <p>'...in interpreting the job-generating role of small enterprises, Hughes (2000) emphasises the extreme skewness and volatility of individual small business growth patterns, and the low quality and sustainability of many of the jobs 'created' by the mass micro enterprises. He argues that the bulk of sustained 'job generation' in the smallest firms is accounted for by a relatively few rapid and sustained growers'.</p> <p>'A comprehensive review of the SME literature concluded growth determinants fell into three groups; management characteristics, firm characteristics, and business strategy (Storey 1994). To these perhaps should be added the general business environment. Static theories of the firm point in particular to two 'business environmental' influences on SME performance, legislation and competition.'</p> <p>'A business will grow if it concentrates on utilising and developing [their core] competencies - rather than becoming conglomerates by acquisition, simply because of the availability of cheap stock- market finance. A competency approach suggests that nurturing firm-specific knowledge and skills and investing in training of the appropriate type will be conducive to growth.'</p> <p>'On average, a high growth entrepreneurial start up will expect to grow by 400% in terms of sales turnover within a three-year period.'</p>	<p>Stevenson, 2001; 19</p> <p>Krueger, 1997; 3</p> <p>Hobbs, 2000; 1</p> <p>Foreman-Peck, 2003; 5</p> <p>Foreman-Peck, 2003; 13</p> <p>GEM, 2004; 7</p>

Are Exporters or substitute Imports:	'Drawing on insights from entrepreneurship research, McDougall and Oviatt (2000: 903) incorporate Covin and Slevin's (1989) three dimensions of an entrepreneurial orientation into the following definition of international entrepreneurship: "International entrepreneurship is a combination of innovative, proactive and risk seeking behaviour that crosses national borders and is intended to create value in organizations".'	Jones, 2002; 4
	'While showing dynamism and willingness to engage in international activities, SMEs face serious difficulties: under-capitalization (Buckley, 1997), imperfect information and entry barriers erected by entrenched firms and by governments (Acs et al., 1997) limit their international expansion.'	Lefebvre, 2000; 15
	'Competitive advantages drawn from a unique product, or product specificity, are positively linked to export performance. The presence of trademarks and, more often, of proprietary products should therefore be an asset for SMEs operating in foreign markets.'	Lefebvre, 2000; 15
	'At the micro- or firm-level of analysis, exports may be seen as a means to create jobs through the growth of individual firms. Empirical evidence shows that SMEs with international activities experience stronger growth rates, estimated at two to three times the average for OECD economies. Exporting SMEs also tend to be more profitable than those confined to domestic markets.'	Lefebvre, 2000; 18
Increase Value-Added and Profitability:	'Of special importance is the dynamic interaction between the creation of knowledge and its entrepreneurial exploitation. Every industry and every entrepreneurial region sets its sights on moving up the value-added scale by embodying more knowledge in its products and services.'	Miller, 2000; 7
	'Some firms are three times as productive as their industry counterparts. Smaller firms are usually found lagging behind in terms of productivity, both in the US and UK. However, this does not mean that small and medium enterprises (SMEs) do not contribute to productivity growth.'	Mole, 2002; 2
	'It is highly likely that those firms with high productivity today will have high productivity tomorrow. High productivity firms are less likely to exit the industry.'	Mole, 2002; 4
Are Adaptable and Flexible:	'A community...that supports its entrepreneurs is much more likely to be resilient in the face of increasingly rapid change in markets, technologies and competition. As the world changes, older competitive advantages erode and older opportunities dissipate. Individuals and organizations must continuously identify new opportunities. To maintain their competitiveness in a rapidly changing world requires that local economies adapt to take advantage of change.'	Krueger, 1997; 1
	'In Audretsch and Thurik's conceptualisation of the entrepreneurial economy, there is an emphasis on individual motivation, new ideas and risk taking, which render small flexible enterprises critical to economic success. In the entrepreneurial economy, flexibility and innovation are more important than stability and control.'	Parker, 2001; 373
	'By contrast, the model of the entrepreneurial economy focuses on the links between flexibility, turbulence, diversity, novelty, innovation, linkages and clustering on the one hand and economic growth on the other.'	Thurik, 2003; 6
	'Due to increasingly volatile competitive environments and rapidly changing customer demands, firms with a flexible, innovative strategic orientation that take advantage of emerging opportunities may have an advantage over more conservative firms.'	Wiklund, 1998; 2
	'Today's most successful firms are confronting more change than ever, yet their response has evolved. Previously	Duguay,

		they tried to control change, to seek protection from it; or to isolate themselves from it. Now they adapt by interacting rapidly with their environment. Flexibility/agility is the hallmark of the ability to adapt rapidly and efficiently.'	1997;1188
		'[T]rends linked to competitive pressures that are encouraging enterprises to become more flexible and responsive so as to improve productivity and quality and increase innovativeness.'	Vickery, 1996; 17
		'Silicon Valley has evolved a local, network-based industrial system that encourages openness, learning, information-sharing, co evolution of ideas, flexibility of both labour and companies, and fast responses to opportunity and challenges.'	Miller, 2000; 6
		'Recent literature on small firms also emphasizes the importance of flexibility as a key competitive advantage of small firms. The economic crises since the early 1970s and increased economic uncertainty have established an environment in which small firms could be more competitive against large firms.'	Sak, 2004; 2
Clusters of Entrepreneurial Firms, Leading to:	Economies of Localisation:	'A number of potential advantages of industry agglomeration—or spatial clustering—have since long been identified in the research literature, notably related to shared costs for infrastructure, the build up of a skilled labour force, transaction efficiency, and knowledge spill-overs leading to firm learning and innovation.'	Malmberg, 2001; 2
		'The enduring competitive advantages in a global economy are often heavily local, arising from concentrations of highly specialized skills and knowledge, institutions, rivals, related business, and sophisticated customers.'	Porter, 1998; 90
		'Localization economies lead the marginal production cost prevailing in a locale to be a decreasing function of the number of similar firms established there.'	Belleflamme 2000; 159
		'Localization and urbanization economies can be considered as centripetal forces leading to concentration of economic activities.'	Lall, 2004; 645
		'There are a number of reasons for the occurrence of localisation economies, including the presence of a local pool of skilled labour, pecuniary external economies arising from specialisation and from economies of scale in supplying firms, non-traded local inputs, such as infrastructure and...knowledge spillovers, which are pure technological externalities.'	Jensen-Butler, 2003; 9
		'A firm that is located in close proximity to other firms in the same industry can take advantage of so-called localization economies. These intra-industry benefits include access to specialized know-how (i.e., knowledge diffusion), the presence of buyer-supplier networks, and opportunities for efficient subcontracting. Employees with industry-specific skills will be attracted to such clusters giving firms access to a larger specialized labour pool.'	Lall, 2004; 644
		'Learning and adaptation to changing market and technological conditions is more likely to be effective and sustainable at a regional level since tacit knowledge transfers more easily between actors in close spatial proximity'	Harding, 2004; 2
		'For certain types of productions the amalgamations of the operations provided by many small businesses, geographically close and specialised in a specific task of the production phase, can substitute efficiently the manufacturing system based on large and vertically integrated firms'	Schiavone, 2004; 4
		'Paradoxical though it may seem, globalism is currently fostering greater regionalism and localism. Globalism leads to seeking out regions of specialization, and regions in turn move toward specialization to establish their competitive position in the global economy.'	Miller, 2000; 5

Economies of Urbanisation:	‘Urbanization economies prove to be important because cities are a space for new ideas, information, and learning facilities through residential amenities for R&D and foreign-born workers; better business conditions; and effective cumulative learning’	Ki, 2001; 103
	‘Urbanization economies are externalities available to local firms irrespective of the industry. Localization economies arise from a spatial clustering of economic activities in either the same sector or related industries.’	Boschma, 2004; 5
	‘Urbanisation economies arise from a large and varied labour market, economies of scale in provision of infrastructure and public services, a variety of business services and again, knowledge spillovers, this time between different industries.’	Jensen-Butler, 2003; 9
	‘Another case of agglomeration economies external to the firm relates to benefits that accrue from being located in close proximity to firms in other industries—so-called urbanization economies. These inter-industry benefits include easier access to complementary services (publishing, advertising, banking), availability of a large labour pool with multiple specialization, inter-industry information transfers, and the availability of less costly general infrastructure.’	Lall, 2004; 644
Economies of Scale Through Cooperation:	‘Existing agglomerations of firms of a given sector stimulates the establishment of new firms that perform complementary activities and supply specialized inputs, services, or machinery to the concentrated sector. When a productive activity reaches a local minimum critical mass, it allows to push forward the division of labour and this involves cost savings for the aggregate of local firms.’	Callejon, 1996; 4
	‘External scale economies are increasing benefits accrued by a firm because of its location in a metropolitan area, or near other firms in the same industry (Berry, Conkling and Ray, 1997).’	Mittelstaedt 2003; 2
	‘Increasing returns to scale are essential for explaining the spatial concentration of economic activities.’	Lall, 04;644
	‘We argue that one way an entrepreneurial firm can increase its rate of new product development is by entering into strategic alliances with firms that possess complementary assets. The basic proposition advanced is that a firm's rate of new product development is a positive function of the number of strategic alliances that it has entered.’	Deeds 1996; 41
	‘In these forums, relationships are easily formed and maintained, technical and market information is exchanged, business contacts are established, and new enterprises are conceived...This decentralized and fluid environment also promotes the diffusion of intangible technological capabilities and understandings’	Saxenian, 1990; 98
	‘In the entrepreneurial economy firms are vertically independent and specialized in the product market. The greater degree of vertical disintegration in the entrepreneurial economy means that co-operation among independent firms replaces internal transactions within a large vertically integrated corporation. At the same time, there are more firms, resulting in an increase in both the competitive as well as the co-operative interface’	Audretsch, 2000; 20
	‘Saxenian (2000) claims that the development of Silicon Valley – often said to be one of the most entrepreneurial regions in the world – is a result of continuous networking between individuals and between companies rather than of the discontinuous independent acts of lone individuals’	Lindgren, 2002; 3
	‘Common forms of multiple linkages between a given set of firms include: exchanging multiple resources, communicating with other firm representatives on industry and trade committees, sharing common pools of knowledge, acquiring personnel trained and socialized in a common pool of competence, friendship and kinship	Van de Ven, 1993; 224

		ties, and overlapping board memberships.’ ‘[C]onsidering theories of agglomeration economies, we would predict that entrepreneurial activity is more concentrated in areas that exhibit a regional advantage. As the literature on agglomeration economies shows, there might be knowledge spillovers across individuals, and individual productivity may be higher in areas where human capital is more concentrated’.	Giannetti, 2004; 8
Support Structures:	Institutions:	‘Institutions are organizations, or mechanisms of social structure, governing the behaviour of two or more individuals. Institutions are identified with a social purpose and permanence, transcending individual human lives and intentions, and with the making and enforcing of rules governing human behaviour. As structures and mechanisms of social order among humans, institutions are one of the principal objects of study in the social sciences, including sociology, political science and economics’ ‘North (1994:360) defines institutions as ‘... the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies’. ‘Thorton and Flynne (2003) and Saxenian (1994) argue that entrepreneurial environments are characterized by thriving supportive networks that provide the institutional fabric linking individual entrepreneurs to organized sources of learning and resources’ Intermediaries, Whether organized as nonprofit enterprises or trade associations, are “always on the look out for opportunities, new markets, better production processes, management support, enabling technology, and ensuring a supportive environment for its member entrepreneurs” (Macke, 2001; 4).’ ‘Roberts and Malone (1996) argue that low support-low selectivity policies are more fitted to entrepreneurially developed environments, while high support-high selectivity policies are more efficient in entrepreneurially underdeveloped environments. In entrepreneurially developed contexts, such as Boston Route 128 or Silicon Valley, a strong entrepreneurial community has the capability to select the best entrepreneurial projects and allocate resources to them. Thus, research institutions can adopt a fairly passive strategy. In contrast, in underdeveloped entrepreneurial contexts that lack a strong entrepreneurial community, research institutions need to be more proactive by being selective and providing incubation capabilities to their spin-off projects’ ‘Presence of research institutions and universities that interact effectively with industry. Research institutions and universities offer such a rich source of advanced research, and produce so many well trained, experienced scientists and engineers, that high tech companies located near them enjoy a powerful advantage. It is vital that these institutions interact effectively with industry.’ ‘Commercial success or failure of a technological innovation is in great measure a reflection of institutional innovations that embody the social, economic, and political infrastructure that any community needs to sustain its members.’ ‘Effective institutions raise the benefits of cooperative solutions or the costs of defection, to use game theoretic terms. In transaction cost terms, institutions reduce transaction and production costs per exchange so that the potential gains from trade are realizable. Both political and economic institutions are essential parts of an effective institutional matrix.’	Wikipedia Online Wennekers, 2002; 11 Audretsch, 2004; 5 Dabson, 2001; 41 Degroof, 2003; 10 Miller, 2000; 9 Van de Ven, 1993; 214 North, 1991; 98

	<p>‘The central issue of economic history and of economic development is to account for the evolution of political and economic institutions that create an economic environment that induces increasing productivity.’</p> <p>‘If institutions are the rules of the game, organizations are the players. They are groups of individuals engaged in purposive activity. The constraints imposed by the institutional framework (together with the other constraints) define the opportunity set and therefore the kind of organizations that will come into existence.’</p> <p>‘Recent attempts to explain regional economic performance have increasingly focused upon the internal and socially-created characteristics of regions. Originating from a variety of starting points within the social sciences, there has been a convergence upon the causal significance of regionally endogenous processes and institutional capacities. It seems that “successful” regional economies in Europe are dependent upon conditions and processes internal to the region as much as they are subject to wider economic forces.’</p> <p>‘The importance of local institutions both within and outside the structures of the state, of a local tradition of entrepreneurship and self-reliance, of a culture of democratic associationalism that facilitates co-operation and self regulation, and of labour market conditions that permit flexible production strategies to be developed and deployed is readily apparent in many successful regions.’</p> <p>‘According to Lichtenstein and Lyons (2001; 10), “the primary mission of enterprise development must be to develop entrepreneurs. The secondary challenge is to provide the services necessary to help those entrepreneurs become successful”. Entrepreneurship development starts with the entrepreneur, identifying potential entrepreneurs, providing skills to help people realize their entrepreneurial potential, and empowering individuals to explore ideas and exploit opportunities to create their own businesses and their own wealth.</p> <p>‘Fostering Entrepreneurship: The phenomenal growth of small business in the USA and Europe can largely be attributed to the public and private sector creating an environment that nurtures entrepreneurship. This involves encouraging individuals to start a business and providing assistance with advice and support’</p> <p>‘Services appropriate to the local context: The roles and types of agencies established for local economic and business development have a direct impact on their eventual success or failure. USA and European case studies indicate that it is important that the form the support takes should follow the function of that support. In these countries, locally driven business support institutions help to ensure that they are appropriate to the size and character of the local context’</p>	<p>North, 1991; 98</p> <p>North, 1993; 3</p> <p>Hudson, 1999; i</p> <p>Hudson, 1999; 9</p> <p>Markley, 2002; 3</p> <p>Madell, 2002; 6</p> <p>Madell, 2002; 7</p>
Infrastructure:	<p>‘This infrastructure includes: (I) institutional arrangements to legitimate, regulate, and standardize a new technology, (2) public resource endowments of basic scientific knowledge, financing mechanisms, and a pool of competent labour, as well as (3) proprietary R&D, manufacturing, marketing, and distribution functions by private entrepreneurial firms to commercialize the innovation for profit.’</p> <p>‘The path to prosperity begins with governments creating an environment where the private sector can flourish. This enabling environment requires sound policies in four basic areas: securing private property rights, rationalizing the legal system, improving government administration, and building physical infrastructure...a healthy business environment must rely on adequate physical infrastructure and support services to flourish. Roads, ports and telecommunications facilities must be modern and in good condition. Support services, such as legal advice, insurance, accounting, and consulting services must be allowed to operate in response to market demand.’</p>	<p>Van de Ven, 1993; 211</p> <p>CIPE, 1998; 1</p>

	‘Building entrepreneurial potential thus appears to require an appropriate cognitive infrastructure as well. This cognitive infrastructure represents the beliefs and attitudes of community members and institutions that support (or oppose) seeking new opportunities.’	Krueger, 1997; 3
Regional and Macro Economic Conditions:	<p>‘Since 1979 the focus of monetarist-inspired free-market government policy in Great Britain has shifted towards the development of an active and vibrant “enterprise” culture. Associated with increasing interest in creating greater competitiveness, a desire to privatize public sector production, moves to switch resources away from traditional industries towards high-tech small firms, and an ideological objective of reducing reliance on the state by fostering the principles of “individualism,” choice, and “self-help” (Martin 1985, p. 385), government has introduced a torrent of measures that have actively encouraged individuals to become self-employed or to start their own businesses (Beesley and Wilson 1982).’</p> <p>‘Developing an entrepreneurial culture in the UK is at the heart of the White Paper . . . And when entrepreneurs, at whatever age are ready to make a start, Government will be there to offer them help and advice . . . there is much it [the Government] can do to encourage innovative start-ups in their early years’</p> <p>‘It is widely recognized that a variety of governmental regulations and institutional arrangements facilitate and inhibit the emergence of new technologies and industries.’</p> <p>‘In the late 20th century, entrepreneurship re-emerged as a key agenda item of economic policy makers across Europe, both for specific nations as well as for the European Union as a whole (Brock and Evans, 1989; Carree and Thurik, 2002).’</p> <p>‘On the demand side, institutions and specific government policies dealing with the de-regulation of entry and privatization or collectivization of many services and utilities influence opportunities to start a business.’</p> <p>‘A focal point for development policy is creating attributes that mimic the characteristics of successful locations. Typically, government policy aims to leverage the presence of local research universities, increase the availability of venture capital, encourage a culture of risk taking and create strong local informational and business development networks.’</p> <p>‘Under the model of the entrepreneurial economy, government policy towards business tends to be decentralized and regional in nature. This distinction in the locus of policy results from two factors. First, because the competitive source of economic activity in the model of the entrepreneurial economy is knowledge, which tends to be localized in regional clusters, public policy requires an understanding of regional-specific characteristics and idiosyncrasies. Secondly, the motivation underlying government policy in the entrepreneurial economy is growth and the creation of jobs (with high pay), to be achieved mainly through new venture creation.’</p> <p>‘One view that has had a great impact on thinking about the revival of regional economies stresses the role of entrepreneurship and increased workers participation in creating new forms of localised innovation and competitiveness’</p>	<p>Birley, 1994; 8</p> <p>DTI, 1998</p> <p>Van de Ven, 1993; 216</p> <p>Wennekers, 2002; 2</p> <p>Wennekers, 2002; 11</p> <p>Feldman, 2001; 861</p> <p>Thurik, 2003; 10</p> <p>Legendijk, 2000; 189</p>

BIBLIOGRAPHY

- Acs, Z., Mork, R., Shaver, J. and Young, B. (1997) 'The Internationalization of Small and Medium-sized Enterprises: A Policy Perspective' *Small Business Economics*, Vol. 9, 7–20.
- Althin, (1948) 'Industrilokalisering' in: *Sveriges Industri*, tredje upplagan. Stockholm: Industriförbundet.
- Atherton, A. (2005) 'Should Government be Stimulating Start-Ups? An Assessment of the Scope for Public Intervention in New Venture Formation' (forthcoming).
- Audretsch, D., Houweling, P. and Thurik, R. (1998) 'Industry Evolution: Diversity, Selection and the Role of Learning' Discussion Paper, Tinbergen Institute, <http://www.tinbergen.nl/discussionpapers/98014.pdf> (Accessed, 08/08/2005).
- Audretsch, D. and Thurik, R. (2000) 'What's New about the New Economy?' *Research Paper*, ERIM Report Series Reference No. ERS-2000-45-STR., http://papers.ssrn.com/sol3/papers.cfm?abstract_id=370844 (Accessed, 07/08/05).
- Audretsch, D. and Thurik, R. (2001) 'Linking Entrepreneurship and Growth.' STI Working Papers, Directorate for Science, Technology and Industry, OECD, May.
- Audretsch, D. and Thurik, R. (2004) 'A Model of the Entrepreneurial Economy? Sources of Growth in the Managed and Entrepreneurial Economies' *International Journal of Entrepreneurship Education*, Vol. 2, (forthcoming).
- Ajzen, I. (1987) 'Attitudes, Traits, and Actions: Dispositional Prediction of Behaviour in Social Psychology,' *Advances in Experimental Social Psychology*, Vol. 20, 1-63.
- Ajzen, I., (1991) 'The Theory of Planned Behaviour' *Organizational Behaviour and Human Decision Processes*, Vol. 50, 179-211.
- Beesley, M. and Wilson, P. (1982) 'Government Aid to the Smaller Firm Since Bolton' in 'Perspectives on a Decade of Small Business Research' Stanworth, J., Westrip, A., Watkins, D. and Lewis, J. (Eds.) Aldershot: Gower.
- Belleflamme, P., Picard, P. and Thisse, J. (2000) 'An Economic Theory of Regional Clusters' *Journal of Urban Economics*, Vol. 48, No. 1, 158-184.
- Berry, B., Conkling, E. and Ray, D. (1997) 'The Global Economy in Transition; 2nd Edition' New Jersey, Prentice-Hall.
- Bird, B. (1989), 'Entrepreneurial Behaviour' Glenview EL; Scott, Foresman and Company.
- Birley, S. and Westhead, P. (1994) 'A Taxonomy of Business Start-Up Reasons and Their Impact on Firm Growth and Size' *Journal of Business Venturing*, Vol. 9, No. 1, 7-31.
- Boschma, R. and Wenting, R. (2004) 'The Spatial Evolution of the British Automobile Industry' http://econ.geog.uu.nl/boschma/boschma_wenting.pdf (Accessed, 07/08/2005).
- Bradley, D. and Cowdery, C. (2004) 'Small Business: Causes of Bankruptcy' http://www.sbaer.uca.edu/research/asbe/2004_fall/16.pdf (Accessed, 15/08/2005).
- Brandt, N. (2004) 'Business Dynamics and Policies' *Economic Studies* Vol. 38, 9-36.
- Breen, J. (1998) 'Encouraging an Enterprise Culture in Australia' Working Paper, Victoria University of Technology, <http://www.sbaer.uca.edu/research/icsb/1998/pdf/130.pdf> (Accessed; 08/08/05).
- Brock, W. and Evans, D. (1989) 'Small Business Economics' *Small Business Economics*, Vol. 1, 7-20.
- Brons, L. (2000) 'Regional Culture and Entrepreneurial Behaviour' Cure3 Conference on Outstanding Regions, 22nd - 25th November, Leeuwarden; The Netherlands.
- Buckley, P. (1997) 'International Technology Transfer by Small and Medium-sized Enterprises' *Small Business Economics*, Vol. 9, 67-78.

- Callejon, M. and Costa, M. (1996) 'External Economies and the Location of Industry' Regional Science Association European Congress, Zurich, Switzerland, 26-30 August.
- Camp, M. (2005) 'The Innovation-Entrepreneurship Nexus: A National Assessment of Entrepreneurship and Regional Economic Growth and Development' SBA Office of Advocacy, <http://www.sba.gov/advo/research/rs256.pdf> (Accessed, 07/08/2005).
- Carree, M. and Thurik, R. (2002) 'The Impact of Entrepreneurship on Economic Growth' in 'The Handbook of Entrepreneurship' Audretsch D. and Acs Z. (Eds.) (forthcoming).
- Carter, N., Gartner, W. and Reynolds, P. (1996) 'Exploring Start-Up Event Sequences' Journal of Business Venturing, Vol. 11, No. 3, 151-166.
- C.I.P.E. (1998) 'Growing an Entrepreneurial Economy' <http://www.cipe.org/publications/fs/ert/e30/growe30.htm> (Accessed, 06/08/2005).
- Communication of the European Communities (2000) 'Strategies for Jobs in the Information Society' <http://www.union-network.org/uniibits.nsf/0/5d38fd96be9c07c2c1256880002f6a40?OpenDocument> (Accessed; 07/08/05).
- Covin J. and Slevin D. (1989) 'Strategic Management of Small Firms in Hostile and Benign Environments' Strategic Management Journal Vol. 10, No. 1, 75-87.
- Dabson, B. (2001) 'Supporting Rural Entrepreneurship' <http://www.kc.frb.org/PUBLICAT/Exploring/RC01Dabs.pdf> (Accessed, 07/08/2005).
- Davidsson, P. (1995) 'Determinants of Entrepreneurial Intentions' RENT IX Workshop, Piacenza; Italy.
- Davidsson, P. and Henreksson, M. (2002) 'Determinants of the Prevalence of Start-Ups and High-Growth Firms' Small Business Economics, Vol. 19, No. 2, 81-104.
- Deeds, D. and Hill, W. (1996) 'Strategic Alliances and the Rate of New Product Development: An Empirical Study of Entrepreneurial Biotechnology Firms' Journal of Business Venturing, Vol. 11, No. 1, 41-55.
- Degroof, J. and Roberts, E. (2003) 'Spinning-Off New Ventures from Academic Institutions in Areas with Weak Entrepreneurial Infrastructure: Insights on the Impact of Spin-Off Processes on the Growth-Oriented of Ventures' MIT Working Paper, 4311-03, Massachusetts Institute of Technology (MIT), Sloan School of Management.
- DeVol, R. and Wallace, L. (2004) 'Best Performing Cities: Where America's Jobs are Created and Sustained' Milken Institute, http://www.milkeninstitute.org/pdf/best_performing_cities_2004.pdf (Accessed, 11/08/2005).
- Diochon, M., Gasse, Y. and Menzies, T. (2002) 'Attitudes and Entrepreneurial Action: Exploring the Link' <http://attila.acadiau.ca/library/ASAC/v23/232101.pdf> (Accessed, 27/08/2005).
- D.T.I. (1996) 'Small Firms in Britain Report' HMSO.
- D.T.I. (1998) 'White Paper on Competitiveness' http://www.dti.gov.uk/comp/competitive/wh_int1.htm (Accessed, 08/08/2005).
- D.T.I. (2000) 'Opportunity for All in a World of Change' The Stationery Office Publications Centre, London.
- Duguay, C., Landry, S. and Pasin, F. (1997), 'From Mass Production to Flexible/Agile Production' International Journal of Operations & Production Management, Vol. 17, No. 12, 1183-1195.
- European Commission (2003) 'Green Paper on Entrepreneurship in Europe' (European Union COM (2003) 27 Final, Brussels).
- Feldman, M. and Audretsch, D. (1999) 'Innovation in Cities: Science-Based Diversity, Specialization and Localized Competition' European Economic Review, Vol. 43, 409-429.

- Feldman, M. (2001) 'The Entrepreneurial Event Revisited: Firm Formation in a Regional Context' *Industrial and Corporate Change*, Vol. 10, No. 4, 861-891.
- Foreman-Peck, J., Makepeace, G. and Morgan, B. (2003) 'Growth Drivers of Small and Medium-Sized Enterprises: Some Welsh Evidence' *European Network for Industrial Policy Conference*, Porto, Portugal, September.
- Gartner, N and Carter, N. (2003) 'Entrepreneurship Behaviour: Firm Organizing Processes' in 'The International Handbook of Entrepreneurship' Acs, Z. and Audretsch, D. (Eds.), Dordrecht, Kluwer.
- Gatewood, E. J.; Shaver, K. G. & Gartner, W. B. (1995) 'A Longitudinal Study of Cognitive Factors Influencing Start-Up Behaviours and Success at Venture Creation' *Journal of Business Venturing*, Vol. 10, 371-391.
- Gavron, R., Cowling, M., Holtham, G. and Westall, A. (1998) 'The Entrepreneurial Society' London; IPPR.
- GEM (2004) 'UK Sees Increase in Female and Young Entrepreneurs' [http://forum.london.edu/lbspress.nsf/AllDocs/23239657AC2A564380256F9000390259/\\$File/GEM+UK+2004+press+release+-+web+version.pdf](http://forum.london.edu/lbspress.nsf/AllDocs/23239657AC2A564380256F9000390259/$File/GEM+UK+2004+press+release+-+web+version.pdf) (Accessed, 20/08/2005).
- Glaeser, E., Hedi, D., Kallal, A., Scheinkman and Shleifer, A. (1992), 'Growth of Cities' *Journal of Political Economy*, Vol. 100, No. 4, 1126-1152.
- Giannetti, M. and Simonov, A. (2004) 'On the Determinants of Entrepreneurial Activity: Individual Characteristics, Economic Environment, and Social Norms' http://www.ekradet.konj.se/VT04konfart/giannetti_simonov24022004.pdf (Accessed, 21/08/2005).
- Gompers, P., Lerner J. and Scharfstein, D. (2002) 'Entrepreneurial Spawning: Public Corporation and the Genesis of New Ventures, 1986-1999' <http://www.haas.berkeley.edu/finance/spawners.pdf> (Accesses, 19/08/2005).
- Gurwitt, R. (1998) 'Developing Entrepreneurial Economies in Rural Regions: Lessons from Kentucky and Appalachia' Washington, D.C. : Aspen Institute, Rural Economic Policy Program.
- Harding, R., Cowling, M., Levie, J., Brooksbank, D. and Jones-Evans D. (2004) 'How Important are Regional Clusters as Hubs for Entrepreneurial Activity?' http://www.entrepreneur.strath.ac.uk/info/staff/Harding%20et%20al%20paper_babson.pdf (Accessed, 08/08/2005).
- Hobbs, R. (2000) 'Contributions of SMEs to the Economy' ESRC Centre for Business Research, University of Cambridge, <http://www.dti.gov.uk/cld/nov2000/ch7nov.pdf> (Accessed, 18/09/2005).
- Hofstede, G., Niels, G., Noorderhaven, A., Thurik, R., Uhlaner, L., Wennekers, A. and Wildeman, R.(2004) 'Culture's Role in Entrepreneurship: Self-Employment Out of Dissatisfaction' http://www.few.eur.nl/few/people/uhlaner/articles/cultures%20role_brown%20and%20ulijn2004.pdf (Accessed; 07/08/05).
- Holmes, P., Stone, I. And Braidford, P. (2000) 'New Firm Survival: An Analysis of UK Firms using a Hazard Function' <http://www.st-andrews.ac.uk/~res2000/papers/pdf/monday/holmes.pdf> (accessed 14/08/2005).
- Hudson, R. (1999) 'What Makes Economically Successful Regions in Europe Successful? Implications for Transferring Success from West to East' *Economic Geography Research Group, Working Paper Series*.
- Hughes, A. (2000) 'On Enlarging Employment by Promoting Small Enterprises' ESRC Centre for Business Research Working Paper No 180.
- Jensen-Butler, C., Engelstoft, S., Smith I. and Winther, L. (2003) 'The Economics of Industrial Clusters and an Examination of their Performance in Denmark'

- <http://www.usais.it/special%20issue/Clusters%20Chris%20Jensen.pdf> (Accessed, 08/08/2005).
- Jones, M. and Coviello, N. (2002) 'A Time-Based Contingency Model of Entrepreneurial Internationalization Behaviour' Working Paper 2002-12, Haskayne School of Business.
- Kennedy, K., Drennan, J., Renfrow, P. and Watson, B. (2003) 'Situational Factors and Entrepreneurial Intentions' 16th Annual Conference of Small Enterprise Association of Australia and New Zealand, Ballarat; 28th Sept – 1st Oct 2003.
- Ki, J. (2001) 'The Role of Two Agglomeration Economies in the Production of Innovation: A Comparison Between Localization Economies and Urbanization Economies' [Enterprise and Innovation Management Studies](#), Vol. 2, No. 2, 103-117.
- Kim, M., and Hunter, J. (1993) 'Relationships Among Attitudes, Intentions and Behaviour' *Communication Research*, Vol. 20, 331-64.
- Krueger, N. (1997) 'Nurturing Local Economic Resilience: How Communities Can Develop Entrepreneurial Potential' <http://www.usasbe.org/knowledge/proceedings/1997/P115Krueger.PDF> (Accessed, 07/08/2005).
- Krueger, N., Reilly, M. and Carsrud, A. (2000) 'Competing Models of Entrepreneurial Intentions' *Journal of Business Venturing*, Vol. 15, No. 5-6, 411-432.
- Lagendijk, A. (2000) 'Regional Paths of Institutional Anchoring in the Global Economy: The Case of the North-East of England and Aragón' in: Groenewegen J. and Elsner W. (Eds.) 'An Industrial Policy Agenda 2000 and Beyond - New Challenges to Industrial Policy' Kluwer Academic, Dordrecht, 184-222.
- Lall, S., Shalizi, Z. and Deichmann, U. (2004) 'Agglomeration Economies and Productivity in Indian Industry' *Journal of Development Economics*, Vol. 73, No. 2, 643-673.
- Lee, S., Acs, Z. and Florida, R. (2004) 'Creativity and Entrepreneurship: A Regional Analysis of New Firm Formation' *Regional Studies* Vol. 38, No. 8, 879-891.
- Lefebvre, E. and Lefebvre, L. (2000) 'SME's, Exports and Job Creation: A Firm-Level Analysis' Occasional Paper 26, Industry Canada Research Publications Program'.
- Lichtenstein, G. and Lyons, T. (2001) 'The Entrepreneurial Development System: Transforming Business Talent and Community Economics' *Economic Development Quarterly*, Vol. 15 No. 1, pp. 3-20.
- Lindgren, M. and Packendorff, J. (2002) 'Interactive Entrepreneurship: On the Study of Innovative Social Processes' 2nd Annual Conference of the European Academy of Management, Stockholm, Sweden, 9th-11th May.
- Macke, D. (2001) 'Entrepreneurship in Rural America' <http://www.nebcomfound.org> (Accessed, 06/08/2005).
- Madell and Adam (2002) 'Local Economic and Business Development in South Africa: Key Areas of Strategic Focus and Cooperation', Planning Africa Conference, Durban 18-20 September.
- Malmberg, A. and Maskell, P. (2001) 'Localization Economies – Towards a Knowledge-Based Theory of Spatial Clustering' AAG Annual Conference, New York, 27th February – 3rd March.
- Markley, D. and Macke, D. (2002) 'Entrepreneurship Development in Rural America: The Role for a National Centre' <http://www.ruraleship.org/content/pdf/Center-Concept.PDF> (Accessed, 12/08/2005).
- Martin, R. (1985) 'Monetarism Masquerading as Regional Policy? The Government's New System of Regional Aid' *Regional Studies*, Vol. 19, 379-388.
- McDougall, P. and Oviatt, B. (2000) 'International Entrepreneurship: The Intersection of Two Research Paths' *Academy of Management Journal*, Vol. 43, No. 5, 902-906.

- McQuaid, R. (1994) 'Local Enterprise Companies and Economic Development – Some issues in Rural Scotland' Working Paper, No. 12, Napier University;
<http://scholar.google.com/scholar?hl=en&lr=&q=cache:CukU1a-XjXQJ:ftp://netec.mcc.ac.uk/pub/NetEc/RePEc/wuk/napier/ssap12.PDF+%22entrepreneurial+awareness%22> (Accessed; 07/08/05).
- Miller, W. (2000) 'The 'Habitat' for Entrepreneurship' <http://iis-db.stanford.edu/pubs/11898/Miller.pdf> (Accessed, 06/08/2005).
- Mittelstaedt, J. and Ward, W. (2004) 'Measuring the Effects of internal and External Scale Economies on Exporting' <http://business.clemson.edu/CIT/Documents/Locationfirm-size&internationaltrade%20working%20paper.pdf> (Accessed, 06/08/2005).
- Mole, K. (2002) 'Augmenting Productivity in SMEs' A Report for the Small Business Service,
http://www.sbs.gov.uk/SBS_Gov_files/researchandstats/Augmenting_Productivity_in_SMEs.pdf (Accessed, 20/09/2005).
- North, D. (1991) 'Institutions' Journal of Economic Perspectives, Vol. 5, No. 1; 97-112.
- North, D. (1993; 3) 'Institutional Change: Theory and Empirical Findings' economics.edu.ru (<http://www.economics.edu.ru/images/pubs/2003/02/05/0000051624/9412001.pdf>).
- North, D. (1994) 'Economic Performance through Time' The American Economic Review, Vol. 84, No. 3, 359-368.
- OECD (1998) 'Fostering Entrepreneurship' (OECD, Paris).
- Parker, R. (2001) 'The Myth of the Entrepreneurial Economy: Employment and Innovation in Small Firms' Work, Employment & Society, Vol. 15, No. 2, 373–384.
- Porter, M. (1998) 'Cluster and the New Economic of Competition' Harvard Business Review, Vol. 76, No. 6, 77-90.
- Reynolds, P., Hay, M., Bygrave, W., Camp, S. and Autio, E. (2000) 'Global Entrepreneurship Monitor: 2000 Executive Report' (Babson College/London Business School, London).
- Roberts, E., and Malone, D. (1996) 'Policies and Structures for Spinning Off New Companies from Research and Development Organizations' R&D Management, Vol. 26, No. 1, 17-48.
- Robson, M. (1998) 'Self-Employment in the UK Regions' Applied Economics, Vol. 30, No. 3, 313-322.
- Sak, G. and Taymaz, E. (2004) 'How Flexible are Small Firms: An Analysis on the Determinants of Flexibility' Paper prepared for the ERF Eleventh Annual Conference, Beirut, Lebanon, 14-16 December.
- Saxenian, A. (1990) 'Regional Networks and the Resurgence of Silicon Valley' California Management Review, Vol. 33, 89-112.
- Saxenian, A. (1994) 'Regional Advantage' Cambridge, MA, Harvard University Press.
- Schiavone, F. and Dezi, L. (2004) 'Division of Labour, Entrepreneurial Sources and Regional Development' ESU Conference Paper, University of Twente, September.
- Shapero, A. and L. Sokol (1982) 'The Social Dimensions of Entrepreneurship' in Kent, C., Sexton and Vesper, K. 'Encyclopedia of Entrepreneurship' Englewood Cliffs, N J, Prentice Hall: 72-90.
- Smith, D. (2004) 'Developing Self-Employment Among African Americans: An Examination of Human Capital Resources' Development and Society, Vol. 33, No. 1, 81-92.
- Stevenson, L., Lundstrom, A. (2001) 'Patterns and Trends in Entrepreneurship/SME Policy and Practice in Ten Economies' Swedish Foundation for Small Business Research, <http://www.fsf.se/Patterns/CH1-BA~1.DOC.pdf> (Accessed; 07/08/05).

- Storey D. (1994) 'Understanding the Small Business Sector', International Thomson Business Press; London.
- Thornton, P. and Flynn, K. (2003) 'Entrepreneurship, Networks and Geographies' in 'The International Handbook of Entrepreneurship' Acs, Z. and Audretsch, D. (Eds.), Dordrecht, Kluwer.
- Thurik, R. (2003) 'From the Managed to the Entrepreneurial Economy: The Role of Technology and Knowledge' Working Paper,
http://www.twanetwerk.nl/upl_documents/twa%20jub%20bijschik%20thurik.pdf
 (Accessed, 07/08/2005).
- Uhlner, L. and Thurik, R. (2003) 'Post Materialism: A Cultural Factor Influencing Self-Employment Across Nations' Working Paper, Erasmus University; Rotterdam.
- Valery, T., Doss, N., Mazzoli, T. and Thein, V. (1997) 'Triggers And Barriers Affecting Entrepreneurial Intentionality: The Case Of Western Australian Nascent Entrepreneurs'
<http://www.sbaer.uca.edu/research/icsb/1997/pdf/13.pdf> (Accessed, 17/08/2005).
- Van de Ven, A. (1993) 'The Development of an Infrastructure for Entrepreneurship' Journal of Business Venturing, Vol. 8, 211-230.
- Van Stel, A., Dielbandhoosing, S., van den Heuvel, W. and Storey, D. (2002) 'Startup Activity and Employment Growth in Regions' Research report prepared for the Scientific Analysis of Entrepreneurship and SME's,
<http://www.few.eur.nl/few/people/wvandenheuvel/papers/stel2002.pdf> (Accessed; 08/08/05).
- Van Stel, A. and Storey, D. (2004) 'The Link Between Firm Birth and Job Creation: Is there a Upas Tree Effect' Regional Studies Vol. 38, No. 8, 893-909.
- Vickery, G. and Wurzburg, G. (1996) 'Flexible Firms, Skills and Employment' The OECD Observer, No. 202, 17-21, October-November.
- Wagner, J. (2004a) 'Nascent Entrepreneurs' Discussion Paper, Institute for the Study of Labour, <http://opus.zbw-kiel.de/volltexte/2005/2540/pdf/dp1293.pdf> (Accessed; 05/08/05).
- Wagner, J. (2004b) 'Are Young and Small Firms Hothouses for Nascent Entrepreneurs? Evidence from German Micro Data' Discussion Paper, Institute for the Study of Labour, <ftp://repec.iza.org/RePEc/Discussionpaper/dp989.pdf> (Accessed; 05/08/05).
- Wennekers, S. and Thurik, R. (1999) 'Linking Entrepreneurship and Economic Growth' Small Business Economics, Vol. 13, 27-55.
- Wennekers, S., Bosma, N. and Stel A. (1999) 'Secular Trends in Self-Employment'
<http://www.sbaer.uca.edu/research/icsb/1999/47.pdf> (Accessed; 06/08/05).
- Wennekers, S., Thurik, R. and Uhlaner, L. (2002) 'Entrepreneurship and its Conditions: a Macro Perspective' International Journal of Entrepreneurship Education, Vol, 1, No. 1, 25-64.
- Wennekers, S., Thurik, R., Van Stel, A. and Noorderhaven, N. (2003) 'Uncertainty Avoidance and the Rate of Business Ownership Across 22 OECD Countries, 1976-2000' Discussion Paper, Tinbergen Institute,
<http://www.tinbergen.nl/discussionpapers/03089.pdf> (Accessed; 05/08/05).
- Wiklund, J. (1998) 'Entrepreneurial Orientations as Predictors of Performance and Entrepreneurial Behaviour in Small Firms – Longitudinal Evidence'
http://www.babson.edu/entrep/fer/papers98/IX/IX_E/IX_E_text.htm (Accessed, 06/08/2005).